

# ARCHITECTURE

❖ VOLUME LVIII

OCTOBER 1928

NUMBER 4 ❖

## American Architecture To-day

THE THIRD OF A SERIES ANALYZING AND CRITICIZING  
OUR MODERN ARCHITECTURE IN SEVERAL  
IMPORTANT PHASES

### III. MONUMENTAL ARCHITECTURE

*By Lewis Mumford*

WE live in an age that has still to create or recreate its symbols. Here lies the great difficulty for our monumental architecture; and this is why our utilitarian buildings are fresh and vigorous, expressing with confidence their own functions, whilst our churches and our colleges and our museums and statehouses are, for the greater part, subordinated to stale symbols which no longer work significantly on the beholder.

There is, it is true, one universal and accepted symbol of our period in America: the skyscraper. It came to us as a practical expedient: it has remained as a monument. When a small city wishes to show that it has an active Chamber of Commerce and a well-stocked Rotary Club it builds a skyscraper: when a university wishes to show that it stands for progress and big donations, it proposes to build a skyscraper: when a business man wants to express the pride of success or to advertise his product he builds a skyscraper: when, finally, a church wants to proclaim to the world that God and Mammon have, after all, a good deal in common, and that the man nobody knows was really a go-getter and a super-salesman, it builds a skyscraper.

There is no doubt that the skyscraper is a genuine symbol, that it fulfils our deep religious awe at size, power, bulk, and that each additional story has the effect of adding an extra zero on a million dollars. Unfortunately, this great religious symbol is not without a defect or two; for one thing, it is an ambiguous symbol, and because it is used for every purpose

it cannot express adequately any particular one: which, for example, is the religious building, the Chicago Tribune Tower or the Methodist Book Concern—and how does Pittsburgh's proposed temple of learning differ from either of these as symbol? Again, the buildings which have a special imaginative function to perform, like schools, churches, synagogues, theatres, libraries, cannot always be wedded to a vast building project: they are often small in size and poor in resources or in prospective income; so that they simply cannot express their purpose by ostentatious size and height. Finally, not every one believes in the religion of the skyscraper; here and there one may still find a congregation that wants a church which is not buried under an income-producing apartment-house, or a college president who had rather support scholarship and science more adequately than squander his funds upon a super-fireproof tower with its expensive upkeep of elevators and heating service.

In short, the symbolism of the skyscraper is inadequate; its appropriate use is admirable; but there are still a large number of purposes for which it is not appropriate. If our success at monumental building depended upon the skyscraper alone, the prospects would not be very bright; but happily some of the best architecture that has been produced in America during the last fifteen years has been modest in scale and unpretentious in achievement. The pioneer in this new monumental architecture, as in so many other departments, was Louis Sullivan, with his little country banks and his mauso-



leums; and during the last decade this work has gone on under many different guises—without the factitious aid of ancient symbols carried over from the past, or of the one new symbol we have created in America out of the automatic operations of land increment and credit.

## II

In treating monumental architecture, I must isolate and limit the field. I purpose therefore to deal chiefly with the last buildings of Bertram Goodhue, with the churches of Mr. Barry Byrne, and with a group of buildings that have been produced by different architects for the campus of the University of Michigan. Each of these examples is vital; and their achievements are instructive not merely on the positive side, but likewise by reason of what they have missed or fallen short of. In one way or another, all the problems that arise out of monumental building—out of free architecture as opposed to engineering—are embodied in these buildings.

While it is hard to forgive the late Mr. Goodhue his long and leisurely preoccupation with Gothic forms, his last works, the Los Angeles Public Library and the Nebraska State Capitol, are perhaps in their outward materialization among the most satisfactory traditional buildings that have been done in America. It must have been hard for any one who loved subtle and complicated forms, as Mr. Goodhue did from his earliest days as a designer of bookplates, to strip off one by one all these delicate acquisitions and to begin with fresh surfaces and planes, boldly modelled around the plan itself. He was aided in this effort, no doubt, because he had found through collaboration with Mr. Lee Lawrie, that it was possible to rely for excellence of detail, not on precedent, but on the sympathetic and untrammelled collaboration of the contemporary sculptor.

In putting this reliance upon modern sculpture, Mr. Goodhue made a great leap. The architects of the nineties, in their revival of classicism, had called in the painter and the sculptor, too: the Congressional Library, the Boston Library, the New York Library, the Carnegie Museum in Pittsburgh are examples of this co-operation: but no one can pretend that the result was a very satisfactory one. Where the pictures themselves were adequate, as in Puvis de Chavannes's murals in Boston, the frame itself was a distraction: usually, however, the pictures were as stale in conception and as

academic in treatment as the architectural detail itself; so that even when the two great symbolic resources of architecture, sculpture and painting, were introduced, they accomplished nothing that a blank wall could not have accomplished with less effort. Mr. Goodhue had the courage to provide a modern frame for his decoration, and then to rely heavily upon the sculptor's own resources. So, in the Nebraska State Capitol, the functions of the building are symbolized by the tower, and by the gigantic figures of the lawgivers that leap solidly out of the walls: instead of urns and lions there are buffaloes: instead of meaningless moldings, there are well-placed inscriptions. Plainly, this type of design places a load upon the sculptor; and it is doubtful if there is a man in America who would be entirely equal to it; for our artists are either unused to working within an architectural frame, or, like Mr. John Storrs, their best work is done in abstract forms. When one admits that Mr. Lawrie's design lacks the final vigor of great sculpture, one says nothing invidious. Our architects have made so little demand upon the creative artists, and they have done so much to encourage the sculpture of the Atlantic City sand-artist and the painting of the insurance-calendar lithograph, that they have still to create an environment which will evoke great talents and bring them to bear upon the architectural problem. One honors Mr. Goodhue and Mr. Lawrie all the more for having the courage to explore together some of the possibilities of a modern symbolic architecture: without this adventurous search, such interesting designs as those of Zantzinger, Borie and Medary for the Insurance Building in Philadelphia, or of Messrs. John Bright and Harry Sternfeld for a swimming-pool at Green Hill Farm would scarcely have come so easily into existence.

While we are on Mr. Goodhue's buildings one must reluctantly add that the interior decorations have not the life and strength and confidence of the façade: they are for the most part mediocre. This brings us to an inherent weakness in American monumental art, a weakness which every exhibition of the Architectural League and almost every new mural confirms. A little while ago Mr. Thomas Craven pointed out that the only respectable modern murals that existed in America were the maps on the walls of the Pennsylvania Station; and when one remembers the ceilings in our new office buildings and the walls of our state capitols, one is fairly well tempted to agree with him.

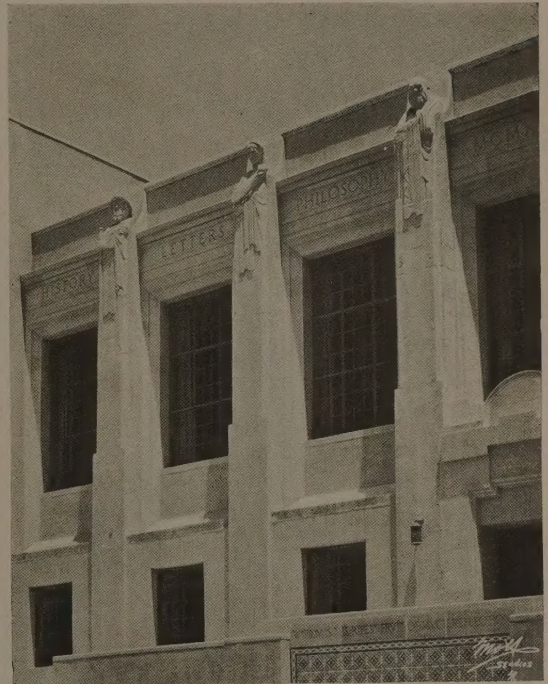


Picasso and Matisse and Marin are not ridiculous daubsters, and that the expression of contemporary life can no more be accomplished in terms of academic pictures that date from Bougeureau and Leighton (bad as they were in their day!) than it can be managed in terms of dentils, guttæ, and acanthus leaves.

### III

Mr. Goodhue's signal success came in buildings like the Los Angeles Library and the Nebraska Capitol that are not hoary with tradition: when we turn to Mr. Barry Byrne's Roman Catholic Churches we face the problem of tradition in its most extreme form; for here we have an institution with an actual continuity that reaches back beyond any American past, an institution that prides itself on the firmness of its tradition, its clarity of dogma, its finality of faith. If new conditions and old traditions can be reconciled here, they can be reconciled anywhere. If a Roman Catholic Church can make use of the forces that are active in contemporary life, there is no need for Colonial dormitories, classic engineering laboratories, or Gothic libraries.

We have here a clear-cut issue between the school represented by Doctor Ralph Adams Cram and that of Mr. Barry Byrne. Doctor Cram, who singles out a certain period in the church's history and desires to keep its architecture crystallized in the forms of this period, would seem to hold the historic position; but as a matter of fact, Mr. Byrne's practice seems to me the more deeply historic one. For the forms of church architecture change as everything else changes: a living institution keeps its shape, like a living organism, only by constantly modifying it and adapting it to outward circumstance and inward need. St. Peter's is not less a part of the living church than the Cathedral of Amiens: the Baroque of the Jesuit fathers is in the tradition quite as much as the architecture of the Romanesque. The symbols and dogmas remain relatively fixed; but their outward expression in a building is modified by all sorts of structural and social considerations that vary from age to age. The modern congregation does not stand, it sits: it does not merely chant and pray, it listens. Mr. Byrne accordingly builds his churches in the modern vernacular: he abandons the pillars, ogives, and vaults, and the stone or pseudo-stone construction: he carries his roof on steel trusses and creates a

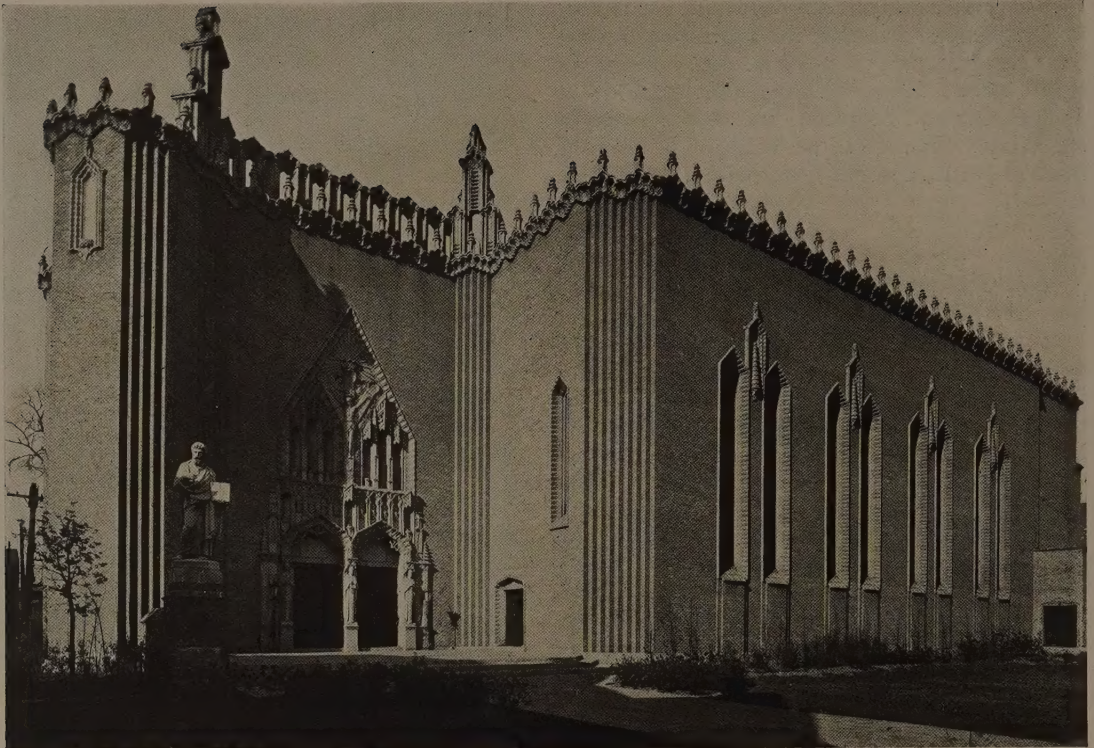


*Photograph by Most Studios*

*Detail of the Los Angeles Public Library*

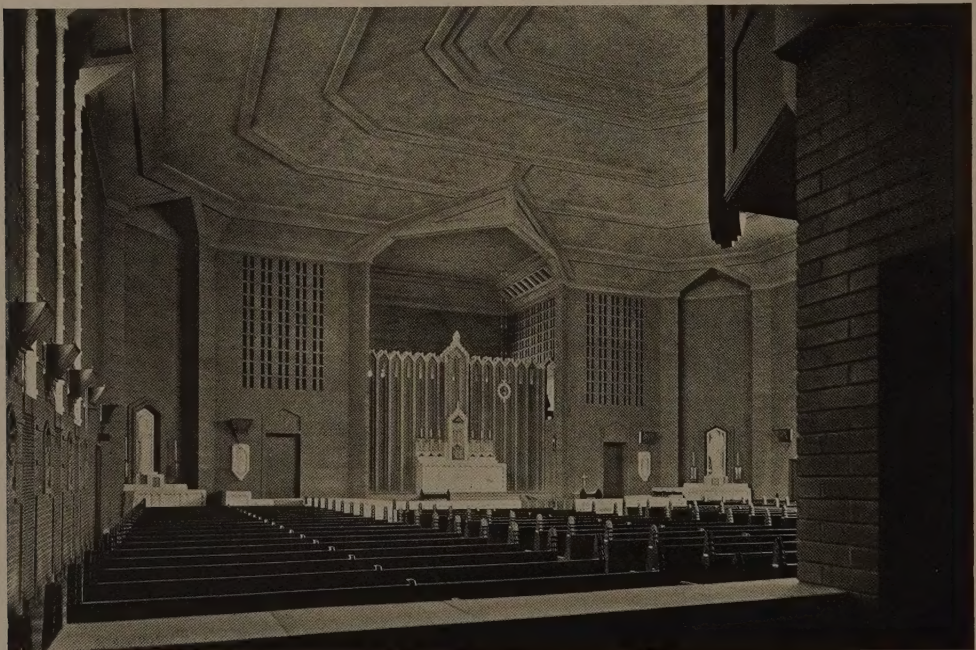
wide, shallow, unbroken auditorium, with good acoustics, facing an altar. There is too much light in this auditorium: he narrows the windows. The walls remain bare and simple: but as a result of his economies in construction there is, even in the most modest churches, money available for fresh, original design in the altar, the font, the confessional box: instead of the usual tepid stockpieces, in the worst profane tradition, the designs of these elements in the ritual are the work of a collaborating sculptor and craftsman, Mr. Alfonso Iannelli. As in Mr. Goodhue's partnership with Mr. Lee Lawrie, the architect relies for art, not upon his draftsman and the historic sample-book of styles, but upon an artist whose work on detail is quite as important as the architect's general plan and design. The result is a building modern in construction, traditional in purpose and feeling, fresh in detail. In the best of Mr. Byrne's buildings, he has carried a very difficult problem nearer to its solution than any contemporary designer of churches I can name; more than that, he has established a valid principle and method for the architect who desires to respect tradition and historic associations without using the irrelevant structural forms and decorations of the past.





*Photograph by Henry Fuermann & Sons*

*Church of St. Thomas the Apostle, Chicago. Barry Byrne, Architect*



*Photograph by Henry Fuermann & Sons*

*Interior, St. Patrick's Church, Racine, Wis. Barry Byrne, Architect; Alfonso Ianelli, Sculptor*



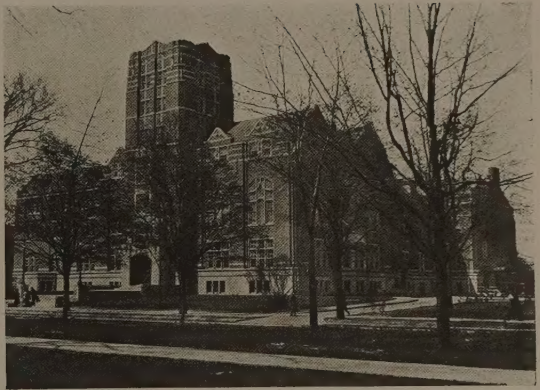


*Architectural Building, University of Michigan.  
Emil Lorch, Architect*

#### IV

No institution has been more lacking in fresh design than the church, except perhaps the college. The excuse for this staleness is that the college is an historic institution: the actual results would lead one to believe that it is also a dead one.

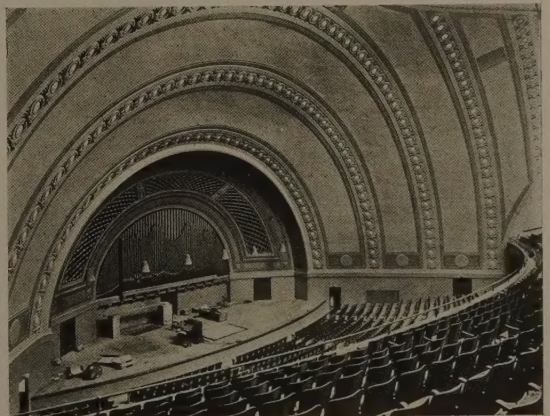
For this reason, a new group of buildings at Ann Arbor stands out with peculiar vividness. One of these, the Michigan Union, is by Mr. Irving Pond. On the outside, it is a building in variegated red brick and limestone, in the modern vernacular: the rhythm of the façade is established by the large, flat-arched windows: and save for the limestone trim, which seems to me to rob the design of some of its force, the wall and window and the low tower establish its character. The interior is done with remarkable freshness and fine feeling: the panelled walls of the dining-room and the lounge, the delicate use of color in the window-panes, and the quiet craftsmanship of detail, which extends to the drinking fountain in the hall, create a very genial whole. Is this a personal *tour de force*, or is it a living tradition? The new Architecture Building, designed by Professor Emil Lorch, is, I think, an answer to this question. Here is another interesting union of plan and elevation in which the relation of wall, window, and mass tells the whole story. These particular buildings represent a growth from a less rhythmic, but direct, vernacular that was established in some of the other buildings on the campus: none of them is perhaps quite so free from tags and solecisms as the interior of the Hill Auditorium, for that interior is one of the most poetic enclosures of space in America: but they are all obviously headed in the same direction. Put



*University of Michigan Union, Ann Arbor, Mich.  
Pond & Pond, Architects*

these buildings alongside the Pennsylvania Freight Terminal in Chicago, or among some of the business structures I cited in my first article, and it is plain that they all "belong:" a common spirit and a common principle unite them.

The culmination of this particular development in monumental architecture has come, I think, in the new Medical Centre at 168th Street in New York City. Here the two prime elements of our new architecture are juxtaposed and united. The central wings consist of the severe unbroken masses of the skyscraper—masses which here have the unique advantage of a site that can be approached from four sides and seen equally well at a distance or near at hand. When these masses stood by themselves, one was conscious of a certain frigid lack of relation between the building and the site: they



*Photograph by Manning Bros.*

*The Hill Auditorium, University of Michigan. Albert Kahn, Architect*

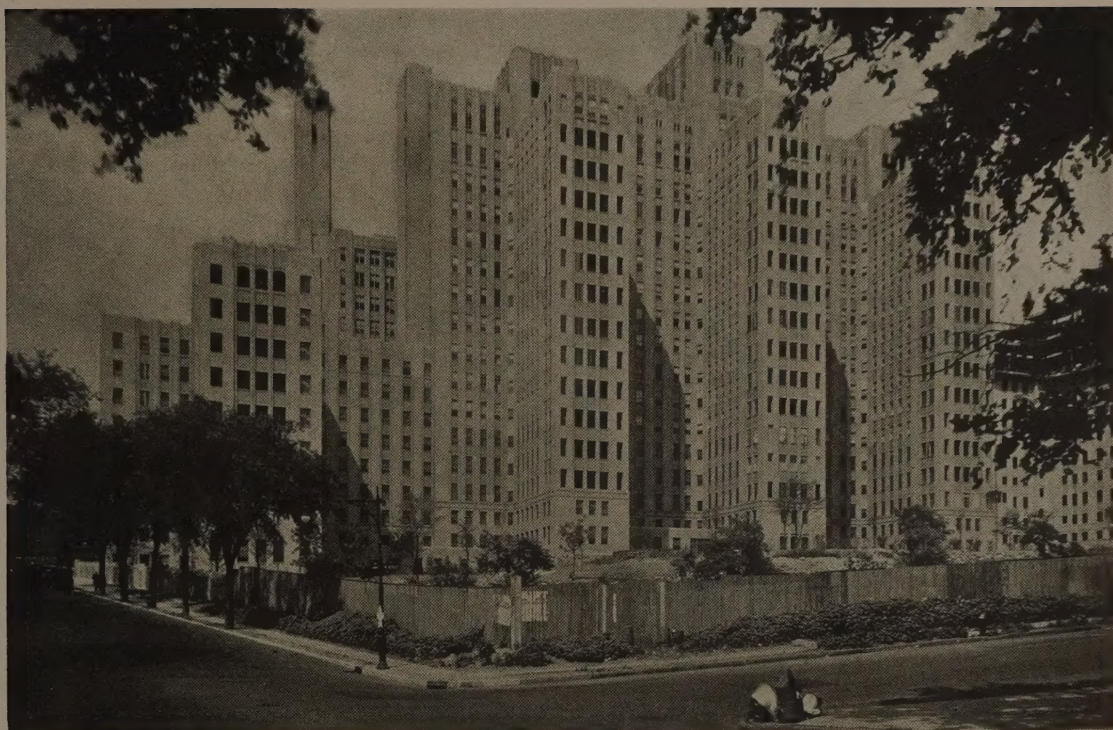




Photograph by Geo. H. Van Anda

*The Columbia Presbyterian Medical Centre, New York City, under construction. James Gamble Rogers, Architect*





Photograph by Geo. H. Van Ande

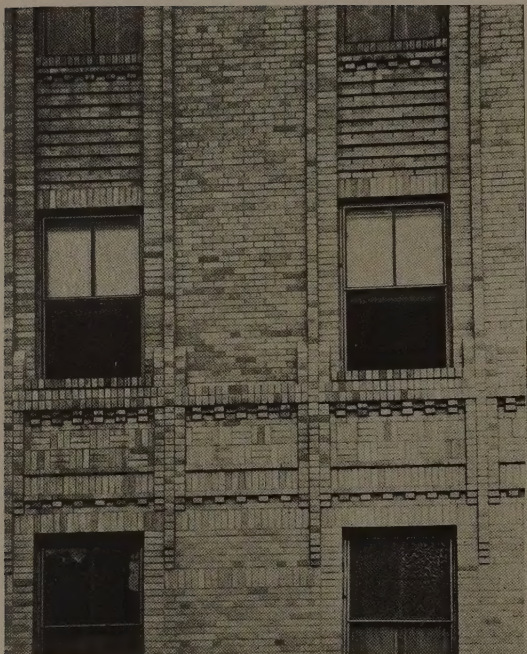
*Another view of the Medical Centre*



Photograph by Ph. B. Wallace

*The Fidelity Mutual Life Insurance Company Building, Philadelphia. Zantzinger, Borie & Medary, Architects*





*Detail of brickwork on the Medical Centre*

might have stood at the North Pole—they might have been placed against blank paper—for all the help they got from the immediate environment. Now that the subordinate buildings have been put up—the receiving hall, the power-plant, and even the policeman's booth at the entrance—that which was merely a cold piece of rationalistic mathematics has become one of the most brilliant pieces of modern music that any modern architect has produced: on all but the south side the buildings are united with their site, and, in the full sunlight, the delicate abstract detail at the topmost parts counts like the sound of the first violins in an orchestra. By themselves the high unbroken monotonous masses were barely tolerable: set off by subordinate buildings, in which the elementary beat of window and wall in the main mass is modified by different accents of window and wall and chimney, and even by different tones of brick, one beholds a breath-taking monument.

The important point to realize is that the small buildings in this group are just as clean and modern as skyscrapers: in other words, what is fresh and positive in contemporary design is just as capable of expression in two stories as in two hundred. Our partial success with the skyscraper does not mean that we can achieve no great æsthetic effects without height and bulk:

it means that the lessons we have learned in skyscraper design are capable of far wider application. And one further lesson from the Medical Centre: a great building derives its beauty not from the impression it makes on a photographic plate, but from the impression that it makes on a living spectator: a building that lacks the advantages of site can never achieve the utmost effect of great architecture. From where does one best see the Barclay-Vesey Building? From the Hudson. Where does one get the finest impression of Number One Fifth Avenue? From Washington Square, with the old low buildings in the foreground. The great miracle of the Medical Centre is that there are a hundred points of vantage: one of the most exhilarating views is from the Drive below, with only a fragment showing. When the architect more often has these advantages at hand, and when he has the courage to make use of them, we will have an architecture that will nourish the spirit and stimulate the mind, not fitfully, partially, accidentally, as now, but as continuously as happens during the walk along High Street in Oxford. Æsthetically, we are on the road to this architecture: socially and economically, we have still a long, difficult way to go.



*Photograph by Sigurd Fischer*

*Swimming-pool, Greenhill Farm, near Philadelphia  
John Irwin Bright and Harry Sternfeld, Architects*





General view from university campus



General view from Woodlawn Avenue

CHICAGO THEOLOGICAL SEMINARY

HERBERT HUGH RIDDLE, ARCHITECT

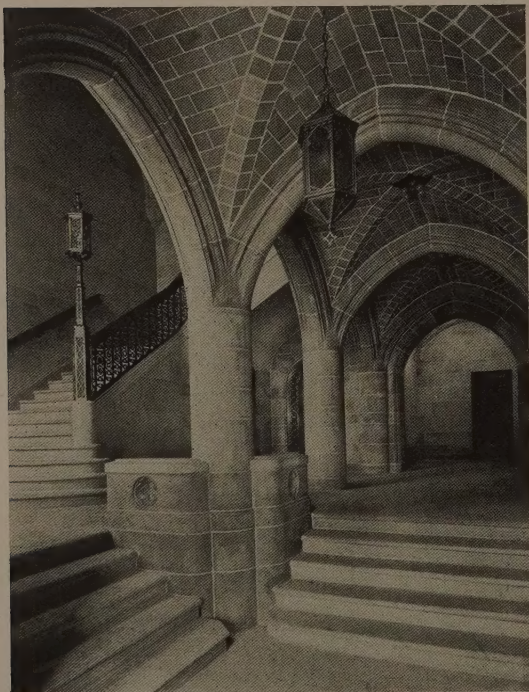




The 58th Street entrance



Entrance on University Avenue



Main staircase



Corner of cloisters

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Graham Taylor Hall, upper chapel

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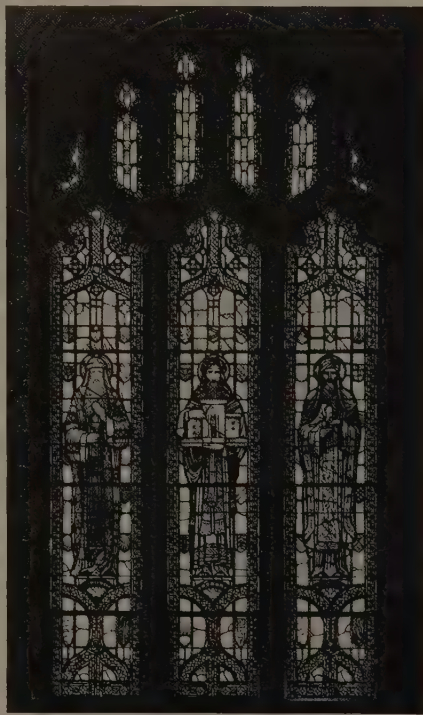




Hooker Memorial Library

Jessie Tree  
window,  
Graham  
Taylor HallNave window,  
Graham  
Taylor Hall

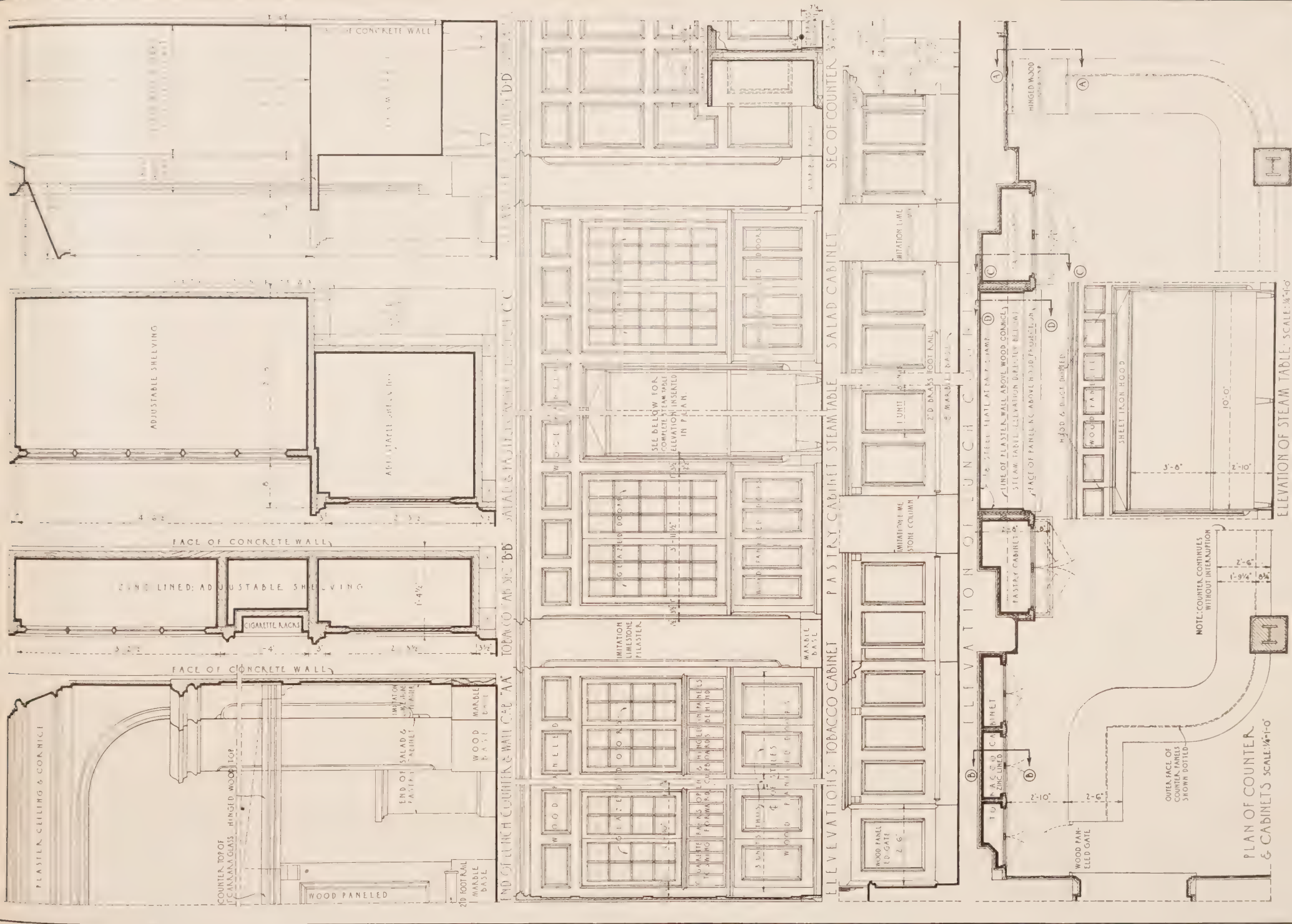
Glass work  
designed and ex-  
ecuted by  
Willet Studios



CHICAGO THEOLOGICAL SEMINARY

HERBERT HUGH RIDDLE, ARCHITECT







## NOTES

PLAN AND DETAILS OF BUFFET AND LUNCH COUNTER, JONATHAN CLUB, LOS ANGELES, CALIF.

SCHULTZE & WEAVER, ARCHITECTS

Although the buffet and lunch counter illustrated is of a card and game room of a club building, it might be applied with profit to any number of problems even though the funds or space allowed were not as generous.

The vast majority of lunch counters are built without architectural supervision—and look it; when one does fall to the lot of a designer it is hoped that glazed or panelled doors covering the food will be introduced as shown here, as well as other features which bear the stamp of earnest endeavor to render a practical necessity in a pleasing guise.

The most important feature is the projection of the counter top of 1" Carrara glass  $8\frac{3}{4}$ " beyond the wood panelled face of the counter front, thus giving the seated person room for knees in a comfortable fashion.

### MATERIALS AND SPECIFIC NOTES:

*Counter:* 8" marble base, 2" diameter brass foot-rail, wood panelled front, 1" Carrara glass top, drawers and shelving under latter, top 2' 6" wide by 3'  $6\frac{1}{2}$ " high.

*Tobacco Cabinet:* At top glazed doors and at bottom wood panelled doors, cabinet zinc lined behind and with adjustable shelving; half way up from top to bottom are cigarette-racks, grouped in panels which swing out, giving access to cupboards behind racks (see elevation and section).

*Pastry and Salad Cabinets:* Wood panelled doors below, glazed doors above, adjustable shelving behind.

*Steam Table:* Sheet-iron hood over, projecting beyond wall face 1' 2"; at jamb and back  $\frac{1}{8}$ " sheet-iron plate.



(See measured details on other side of sheet)

BUFFET AND LUNCH COUNTER, JONATHAN CLUB, LOS ANGELES, CALIF.

SCHULTZE & WEAVER, ARCHITECTS



# EDITORIAL COMMENT

❖ VOL. LVIII, No. 4

ARCHITECTURE

OCTOBER, 1928 ❖

## MODERN ARCHITECTURE

ON every side the battle between the modernists and the traditionalists waxes warm. On the one hand there is strong impatience, mounting even to actual disgust, with the forms handed down to this generation from other times and other lands. On the other hand there is the firm conviction that the accumulated beauty of civilization cannot be set aside by any upstart generation bent upon starting with a clean slate. The modernist will ask impatiently why we should try to express the needs and aspirations of a new age in the forms devised in and for a very different age. He will point to the motor-car, the dynamo, the airplane as examples of the unfettered sort of expression in design that should also characterize our architecture. And the conservative traditionalist will point out that even these products of our own day have been developed to their present form through an evolution that started with forms familiar to us and associated with other needs. The automobile started out as a buggy, the airplane as a kite. We did not try, nor would we have been able, to create the present forms out of hand.

The rabid modernist to-day disdains the employment of the egg-and-dart as emphatically as he disdains the jig-sawn barge board of the Victorian age. He strives to create that which has never been on sea or land, and in the doing he frequently misses beauty altogether; even he will admit that, but in his passionate revulsion against using the *cliché* he will plead that, after all, beauty as we have conceived it is not the essential; beauty rather is found in a new guise in an honest expression of function.

Meanwhile the traditionalist assumes an air of patient boredom and plots for you a curve of duration that is already nearing its highest point before the swift decline, based upon what happened in the case of *l'art nouveau*. In that obsession one played with curves; in this, with angularity and straight lines.

Incidentally, the vigor and bitterness of this warfare in the profession itself must be very hard upon the layman. Closeted with either advocate for a half hour, he can hardly fail to

be convinced that the other side is a collection of mossbacks or a band of dangerous bolsheviks—depending upon who talked to him.

Both sides cannot be right, nor, in the face of such plausible arguments, can either side be wholly right. Somewhere between the two divergent paths must lie the course that American architecture will follow, but he would be a rash prophet indeed who would undertake to chart that course in advance.

The movement that we call modern may not be lightly dismissed as another *l'art nouveau*. That short-lived phase never really dominated the architectural student body. Hardly can it be said to have gotten itself built. The present striving for an unfettered expression in design has done and is still doing both of these things.

On the other hand, where is the architect fatuous enough to believe that we can wash our hands of all that civilization has achieved in the slow, painstaking development of building beautifully, and create a new language of beauty out of hand? If he should rise to claim such an ability his own works would be the first to mock him.

This much, at least, is sure: Nothing that is merely bizarre ever has or ever will gain and hold mankind's approval. That which gains attention through shocking one's sensibilities must satisfy a very deeply ingrained desire for beauty if it is not to give way at once before a still more insistent shock. Novelty has a power for refreshment but seldom the power to command continued admiration. Design that is fortuitously clever cannot hold its own in the long run with design that is less clever but more firmly based upon such age-old fundamentals as unity, scale, fitness to purpose, balance, and a discriminating taste in the use of materials.

Some of the work of to-day that we label "modern" can qualify as architecture when measured by these standards; much of it cannot. It would seem as if we might be groping our way toward something that can take its place in the art of the ages. The end of that groping will not be hastened by a spirit of intolerance either with the heritage of the past or with the enthusiasms of a new age.





*A memorial replica of the first New England trading-post, Bourne, Mass. Joseph Everett Chandler, Architect*



*A police station for a residential district of Chicago. Argyle E. Robinson, City Architect*



*Proposed National Shrine of the Little Flower, Royal Oak, Mich. Henry J. McGill and Talbot Hamlin, Architects*



*So this is California! High-pressure dispensaries of real estate and food*

*Photographs by Ewing Galloway*



*Office building in Hamburg, said to be the largest in Germany. Fr. Hoyer, Architect*

*Photograph by Ewing Galloway*



*The Bank of Detroit's proposed new building, designed by Louis Kamper, Inc., Architects*



*The recently installed statue to Dean West of the Graduate School, Princeton University. R. Tait McKenzie, Sculptor*





*Grant Park from Michigan Avenue now well under way in its development on Chicago's lake front*

## Architectural News in Photographs



*The Chase National Bank Building, New York, has just been completed. Graham, Anderson, Probst & White, Architects*



*The Enquirer Building, Cincinnati. Designed and built by Lockwood, Greene & Co., Inc., Architects and Engineers*



*The Proposed Northwest Tower Building for Chicago. Perkins, Chatten & Hammond, Architects*



## BOOK REVIEWS

**FORTY YEARS OF LANDSCAPE ARCHITECTURE.** Vol. II: **FREDERICK LAW OLMSTED, LANDSCAPE ARCHITECT, 1822-1903.** Central Park as a Work of Art and as a Great Municipal Enterprise: 1853-1895. Edited by **FREDERICK LAW OLMSTED, JR.,** and **THEODORA KIMBALL.** 575 pages, 5¾ by 8½ inches. Illustrated from photographs and plans. New York: 1928: G. P. Putnam's Sons. \$7.50.

The publication of Olmsted's professional papers is contemplated as a work of several volumes. The first, "Early Years and Experiences," established the background for an understanding of this great figure in American landscaping. Through the cooperation of the Russell Sage Foundation in connection with the surveys undertaken by the Regional Plan of New York and Its Environs, the editors of the Olmsted papers have produced this second volume rather as a monograph on Central Park than as a section of Olmsted's contribution to design.

**PENETRATION OF DAYLIGHT AND SUNLIGHT INTO BUILDINGS.** Technical Paper No. 7, Dept. of Scientific and Industrial Research. London: 1927: His Majesty's Stationery Office. 1 s. (U. S. A.: The British Library of Information, 44 Whitehall St., New York City.)

**ENGLISH CHURCH WOODWORK: A Study in Craftsmanship During the Mediæval Period, A. D. 1250-1550.** By **F. E. HOWARD** and **F. H. CROSSLEY.** Second Edition. 403 pages, 7¼ by 10¼ inches. 480 illustrations from photographs and measured drawings. Printed in Great Britain. New York: 1927: Charles Scribner's Sons. \$13.50.

Ten years after its first appearance this accepted standard appears in a new edition with many additional illustrations. It is indicative of the care with which the work was originally done that in this second edition no changes in the text were necessary. Mr. Crossley spent six weeks of each year for twenty years in studying, photographing, and measuring the mediæval church woodwork of England and the illustrations he uses are selected from over 10,000.

**ESTIMATING BUILDING COSTS.** By **WILLIAM ARTHUR.** Third edition, revised and enlarged. 238 pages, 4½ by 6¾ inches. Illustrated with diagrams. New York: Scientific Book Corporation. \$2.

A compact and workable book of tables and methods for the use of contractors, material men, and students. For convenience, figures are given in quantities and in labor hours, permitting of computations to fit local conditions and changing prices.

**WOOD AND LUMBER.** By **ADNAH CLIFTON NEWELL, B.Sc. in E.E.** 211 pages, 6 by 9 inches. Illustrated from drawings. Peoria, Ill.: 1927: The Manual Arts Press. \$2.25.

A text-book by the Director of Manual Arts, Illinois State Normal University, covering the subject from the classification of trees to the manufacture of lumber.

**THE ESSENCE OF ARCHITECTURE.** By **WILLIAM ROGER GREELEY.** 132 pages, 6 by 9 inches. Illustrated with drawings and photographs. New York: 1927: D. Van Nostrand Co., Inc. \$2.50.

A keen and intelligent analysis of æsthetics by a Boston architect (of Kilham, Hopkins & Greeley) whose work reflects his painstaking study of the fundamental essentials of beauty.

**SHOP FRONTS: A Selection of English, American, and Continental Examples.** Edited by **FREDERICK CHATTERTON, F. R. I. B. A.** 112 pages, 9¾ by 12 inches. Foreword, and illustrations from photographs and drawings. Printed in Great Britain. Cleveland, Ohio: 1927: Carl Wendelin Kuehny. \$7.50.

Paris contributes the most interesting examples, on the whole, though the American section (confined to New York) compares favorably with them and with the more staid work in England.

**STANDARDS YEARBOOK: 1928.** Compiled by the National Bureau of Standards: **GEORGE K. BURGESS, Director.** 400 pages, 5¾ by 9 inches. Washington, D. C.: 1928: Superintendent of Documents, U. S. Government Printing Office. \$1.

Outlining the activities and accomplishments of the National Bureau of Standards, other federal and State agencies, and technical and trade associations.

**EXAMPLES OF MODERN FRENCH ARCHITECTURE.** Edited by **HOWARD ROBERTSON, S. A. D. G., F. R. I. B. A.,** and **F. R. YERBURY, Hon. A. R. I. B. A.** Introduction and 100 plates, 8½ by 11 inches, from photographs. Printed in Great Britain. New York: 1928: Charles Scribner's Sons. \$10.

The authors plead no special cause. They merely record the results of certain architectural experiments of the moment in France—examples which, whether in themselves evolutionary or revolutionary, seem to be worth recording for the stimulation they may afford other architects. Mr. Yerbury's photographs, as always, are faultless and are reproduced with great care.





Entrance detail

FEDERATION BUILDING, NEW YORK

BUCHMAN & KAHN, ARCHITECTS





Detail

FEDERATION BUILDING, NEW YORK

BUCHMAN &amp; KAHN, ARCHITECTS





Upper stories

FEDERATION BUILDING, NEW YORK

BUCHMAN & KAHN, ARCHITECTS





Elevator door

FEDERATION BUILDING, NEW YORK

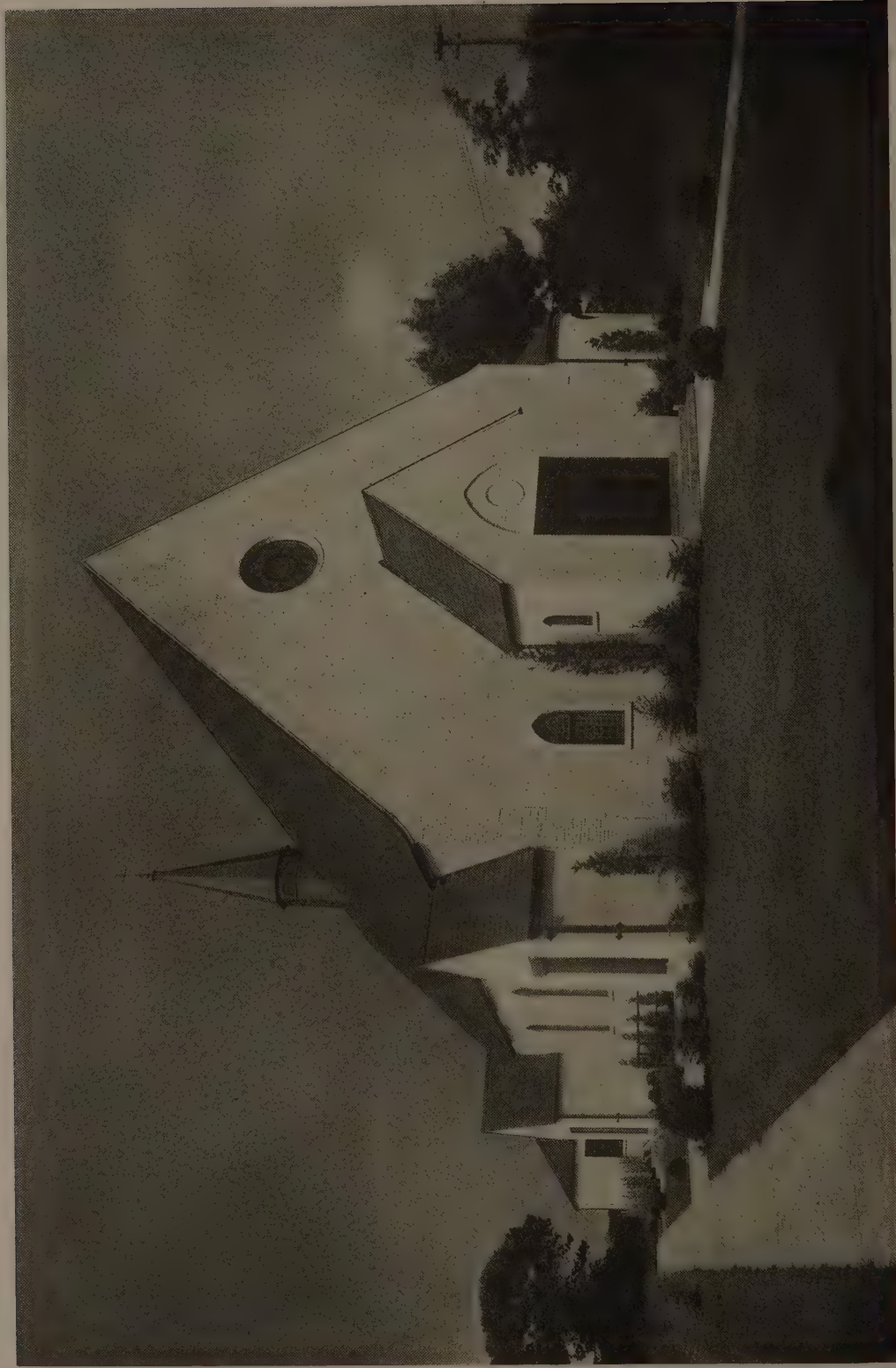
BUCHMAN &amp; KAHN, ARCHITECTS





THE CHURCH OF ST. WILLIAM, THE ABBOT, SEAFORD, LONG ISLAND  
JAMES W. O'CONNOR, ARCHITECT





THE CHURCH OF ST. WILLIAM, THE ABBOT, SEAFORD, LONG ISLAND

JAMES W. O'CONNOR, ARCHITECT



OCTOBER, 1928



THE CHURCH OF ST. WILLIAM, THE ABBOT, SEAFORD, LONG ISLAND

JAMES W. O'CONNOR, ARCHITECT



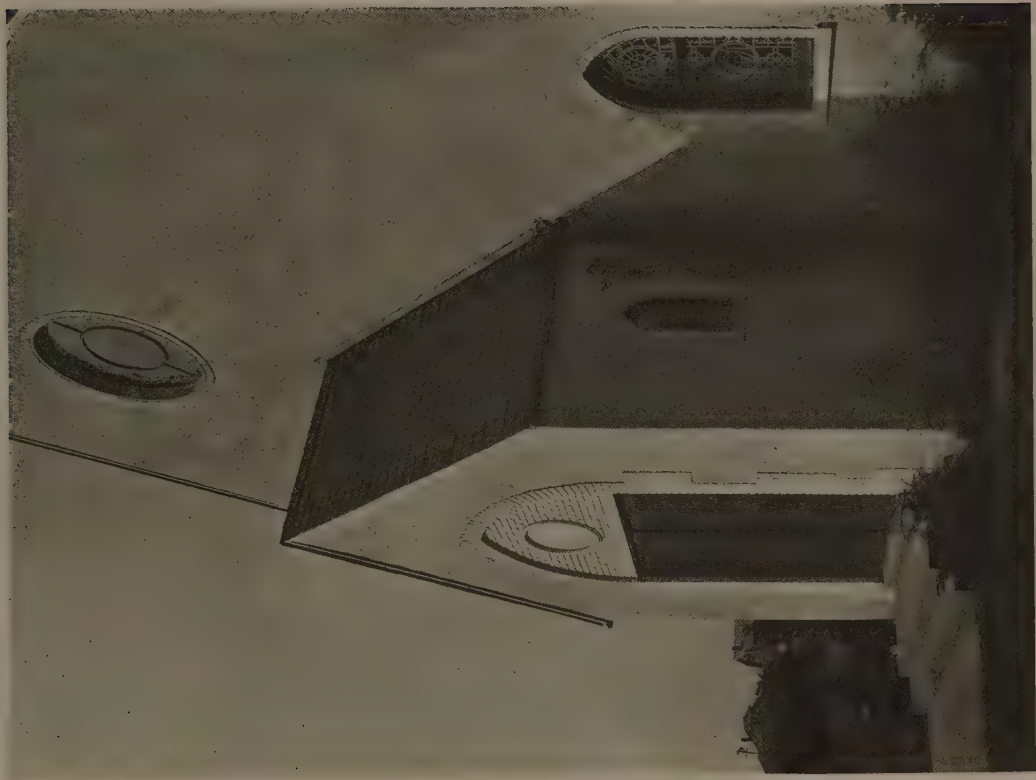


THE CHURCH OF ST. WILLIAM, THE ABBOT, SEAFORD, LONG ISLAND  
JAMES W. O'CONNOR, ARCHITECT



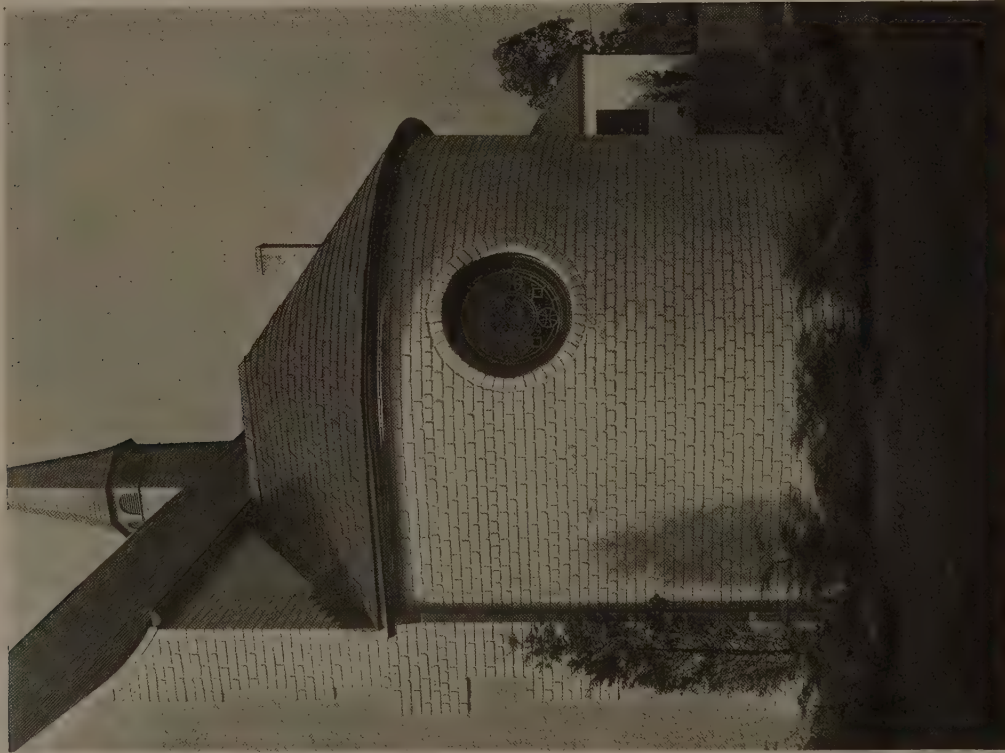


THE CHURCH OF ST. WILLIAM, THE ABBOT, SEAFORD, LONG ISLAND



JAMES W. O'CONNOR, ARCHITECT





THE CHURCH OF ST. WILLIAM, THE ABBOT, SEAFORD, LONG ISLAND



JAMES W. O'CONNOR, ARCHITECT





*The bathing-pool*

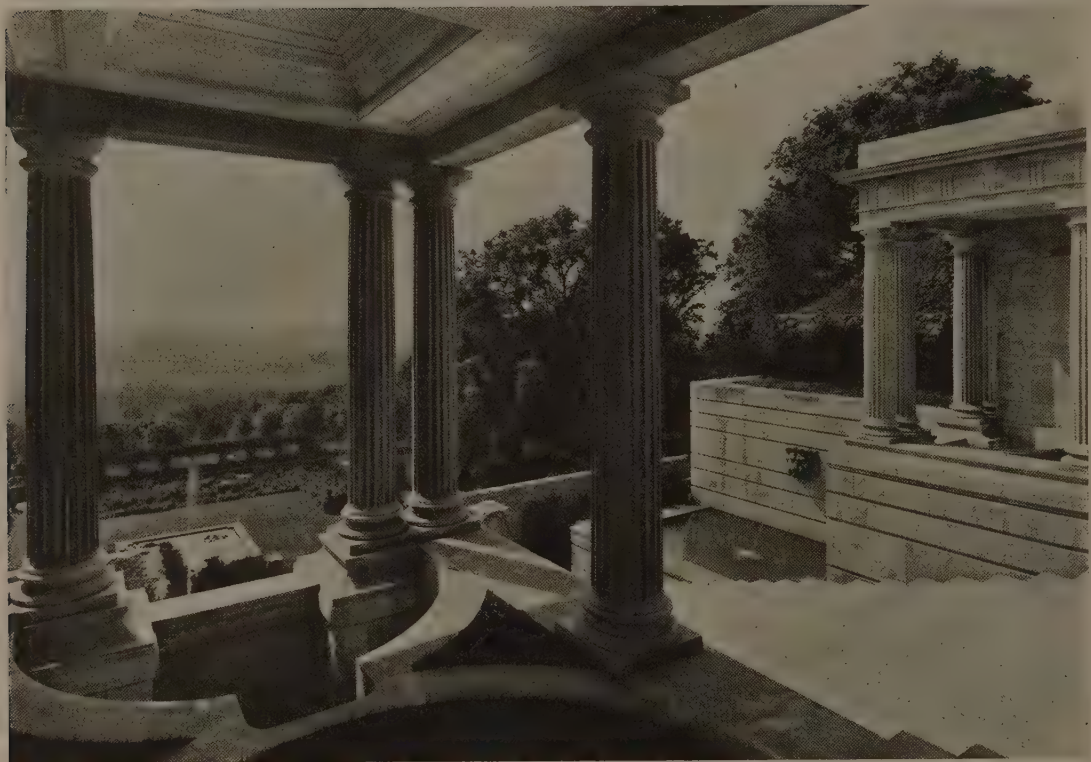


*Temples on the great outside stairway*

PORT LYMPNE, NEAR FOLKESTONE, FOR SIR PHILIP SASSOON

PHILIP TILDEN, ARCHITECT





*The  
great  
outside  
stairway*



*In  
the  
patio*


PORT LYMPNE, NEAR FOLKESTONE, FOR SIR PHILIP SASSOON

PHILIP TILDEN, ARCHITECT

# The Treatment of Architectural Lettering and Material: I

*By Frank Chouteau Brown*

Author of "Letters and Lettering"

OST lettering used upon buildings is incised, or cut into the material, therefore showing in a darkened form, outlined by the shadows gathered in the shape of the section cut back from the material's face.

This being the case, it is desirable that the color of the material into which the lettering is cut be as near white as possible, in order that there may be greater contrast between this surface color and the depth of the shadow that outlines the letter form. It is also desirable that the section adopted for the cutting be sharply outlined, of great depth, and as crisply cut as the material itself permits.

In addition to the use of letters cut upon natural building material, the architect may be concerned with letters to be cast into slabs of poured concrete, or molten copper or brass, or perhaps of beaten or hammered copper or lead. He may also wish to make some use of letters of another material altogether, formed by some appropriate process out of metal and either placed upon or inlaid into a natural material, such as wood or stone; or a manufactured one, such as concrete.

With any form of lettering drawn merely upon paper, vellum, or some other material in color, ink, or gilt we are not at the moment concerned. The drawn or painted lettering is a far more easily practised art, done with greater ease and facility, and possible of being easily changed or modified.

The designing of letters or inscriptions to be made in cast panels is also not so often a part of the architect's work, because of the fact that it is subject to a rather special technic employed more by the sculptor or modeller—with whom the architect usually is associated, if at all, only in some advisory or supervisory capacity. On the other hand, it is generally assumed, whether rightly or wrongly, that the average architect should possess such command of the structural materials used in building, along with a knowledge of the technical methods of cutting employed, as to enable him to design and superin-

tend the cutting of required inscriptions in any such material.

As a matter of fact, however, the average architect rather seldom has experience with the many questions involved in lettering in stone or other material, except in the occasional and comparatively simple employment of letters in an inscription upon the frieze of a building. Only a very few specialists have come to have constant association with sculptors in designing architectural accessories, or pedestals for memorial statuary, or for memorial headstones or other types of monumental design requiring much use of lettered inscriptions in various materials.

Not only the material but also the size and style of the letters to be used are important in determining the methods of employment of different stones or letter styles. The matter is far more complicated than may at first appear; and for much of the most successful work it is not always possible to provide rules or even definite methods to be followed; but perhaps a series of general suggestions, accompanied by a number of illustrations, may provide helpful guidance for those who have not yet had an opportunity to obtain essential experience at first hand.

The reasons for lettering usually being cut into a stone material are principally twofold. First, there is the greater ease and less expense of surfacing a slab of stone at the yard, then marking out the lettered inscription, and cutting it at ease back into the material. The problem of the cutting is then complicated only by possible difficulties in working the required section upon the grain and texture of the stone being used.

If it should be required to have the letters raised upon a natural stone panel, they would first have to be marked off, then the material cut back from the face of the letters, and a surface texture finished—at much more cost, because of the added difficulty and time required to dress a surface broken by so many irregular and raised-surface letter outlines. Then the let-



ter forms would themselves have finally to be finished, raised above the panel surface.

Besides the expense of this procedure, it would be found that the inscription, being formed so largely by cast shadows, would be so broken and diffused by the raised letters that it would very probably be illegible. Whereas in the sunk letter the depth of the section serves to catch and draw together the shadows variously outlining the letter form, in the raised letter these shadows are actually often broken apart and separated by the intervening height and thickness of material forming the raised-letter outline and shape. (See Fig. 1.)

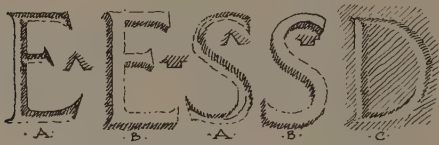


Fig. 1. Showing section shadows

This is suggested in the drawing in letters *A* as contrasted with letters *B*. In each case the *A* letter is cut in a V-sunk section and the letter *B* is square, raised in section. In both the letters *A* it will appear that the shadows fall inside the outlines of the letter; and in both the *B* letters it will be seen that the shadows are cast outside the letter outline, and, being separated by the width of the raised-letter section from each other at many places, the eye does not easily correlate them into the accustomed whole-letter form to which it is accustomed.

As a matter of fact, there is still another factor that must be taken into account. Not only is one side of the V-sunk section always shadowed, but the other side of the sinkage is also correspondingly brighter (the rays of the sun falling more directly upon it), so that, actually, the appearance of the letter cut into the stone face is more as it appears at *C*; even the lighted face helping materially to complete and bring out the letter outlines to the eye of the observer. In the case of the raised square-sectioned letters, at *B*, however, the face of the letter, being flat and in exactly the same relation to the light as is the background, takes the same lighting and so is in no way differentiated from it—unless, of course, the raised letter is of another material of contrasting color and texture.

It may also be noticed that the raised let-

ters appear both larger and cruder than the sunk. This is partly because they can not be cut so finely and partly because the shadow, being cast outside instead of inside the letter outline, does increase its apparent bulk and height, while also apparently dropping the top of the line below its actual location. This would mean that, in a panel of lettering confined within definite moulding outlines, for instance, the cutting of the letters should be raised nearer the

top of the panel, and farther above the bottom, in order that the cast shadows should not appear to be either too far away from the top or too near the bottom of the space provided for their composition. Figure 2 illustrates an apparent exception to all these restrictions. Here the raised letter is so confined within its panel and so closely crowded that the sinking of the small areas of background can be economically and simply effected. The lettering is treated as a decorative unit with the ornament carved above it, and the material is a fine-grained white granite.

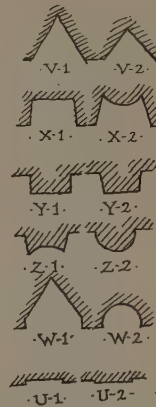


Fig. 2. Various letter-cut sections

These several difficulties being taken into account, it is usual, when a raised letter for any reason is desired, to obtain it by applying letters formed of some other and contrasting material—such as bronze upon marble or granite—so that the shape is not shown by shadow but by a difference of color instead. Then the actual height to which the letter is raised above its background is of little importance, and it can be made as low in relief as provides its form with enough thickness and stability to keep the letter shape. Oftentimes the letter is made very thin, and either set into—or slightly recessed back into—the face of the stone panel. This permits of the panel's being finished easily and inexpensively to an even surface texture before the letter forms are added.

Now let us turn to the problem of incising an inscription into stone or marble, and leaving the incised letter section as the means of making the inscription legible.

The most-used section for incised lettering is the V-outlined sinkage. This is the classic section found usually in old work (Fig. 3), and besides being especially appropriate to the forms



Fig. 4. Old Roman monumental inscription

Fig. 3. White granite cross, designed by T. B. Hapgood

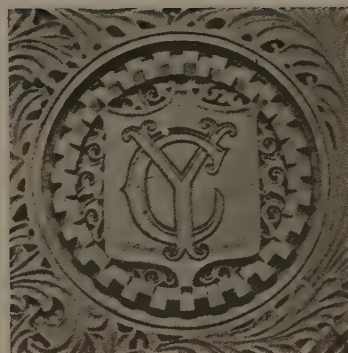
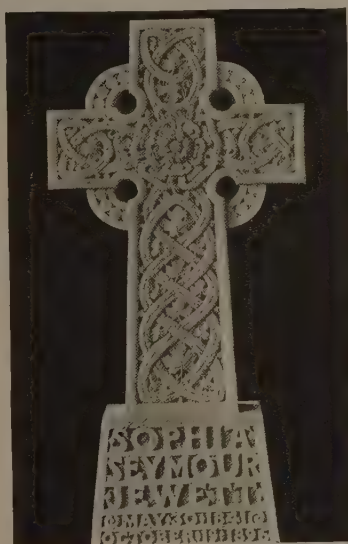


Fig. 5. Monogram cut in sandstone, Romanesque building

of classical letters is also the section most easily cut in stones of firm yet not too hard composition. It may be employed on letters of small as well as large size, as the depth is always proportionate to the size and width of the letter outlines;—although the angle of the sinkage may be sharp or flat (Fig. 4, V-1 or V-2), the former of course resulting in the clearest shadow-reading of the letter and inscription.

Sometimes, in large lettering especially, this letter outline may be still further sharpened by cutting the outline directly back into the material at right angles for a quarter to half-inch depth (Fig. 4, W-1) before starting the V-shaped sinkage. This section is more costly to carve. The more obtuse angle of the stone (Fig. 4, V-1) left in cutting the regular V-sinkage is also less easily broken, and consequently that section is more easily cut.

While the V-sunk section is the most used, there are other sectional handlings appropriate to other letter styles and materials. A straight, flat-sunk letter (Fig. 4, X-1 or X-2) is sometimes used, particularly with Gothic letter forms, both in metal-cut and stone-cut sections. It is also effective with simpler square-shaped letters, or with some of the more modern letters that are now occasionally creeping into use, particularly in relation to some store or commercial advertising purpose.

But next in use to the V-sinkage is a section in which the sides of the cutting are sunk at nearly right angles to the surface (though usually at a slight slope—Fig. 4, X-1) and then the space at the back of the letter section is often

given a slightly curving outline, raised in the centre and sunk more sharply at the outer edges (Fig. 4, X-2) to sharpen and emphasize the letter outline.

This type of section is often used with Mediæval or Romanesque letter forms, and is also especially appropriate to the sandstones. It is even effective when employed with very little sinkage back of the face of the stone, practically sharply sunk narrow lines defining the letter width, and the space between cut to a slightly curving surface (Fig. 5).

The more easily cut materials (in stone the sandstones, brown, yellow, or gray particularly) require an easily cut section, as the sharp edges left from treatments appropriate to marble or granite are easily worn or broken off by contact or by exposure to frost and weather (Fig. 6). In such easily friable materials the letters have to be designed at a larger proportionate size, and with less delicacy of outline and section than in more durable stones. The sinkage must always be less deep, the letters of greater width of stem. Serifs, or sharply angular portions of the outline, must sometimes be either over-emphasized, omitted altogether, or greatly softened or rounded in angle, all in deference to the peculiarities of the material.

Other sections, too, are occasionally employed in stone or other easily carved materials. A few of these are also shown in Fig. 4. Especially when using a material like marble or some of the darker granites, a letter or ornament may be brought out less by the depth of the cutting than by a variation in the surface texture, caused by a different treatment of the ma-



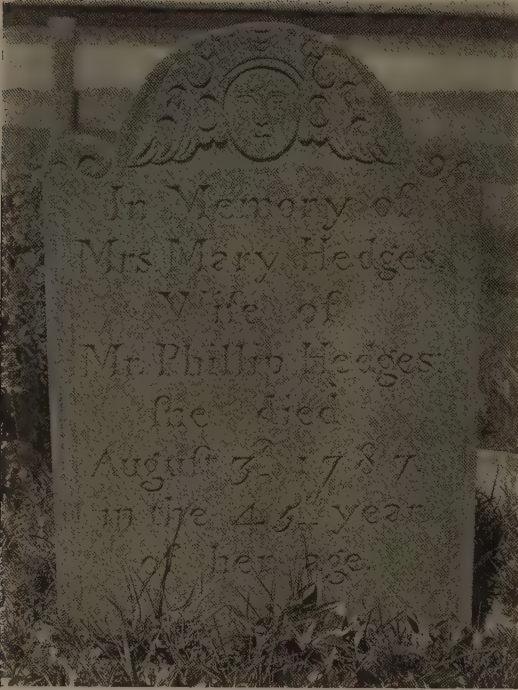


Fig. 6. Sandstone headstone, Montauk Point, Long Island

terial. For instance, a slab of granite may be given a polished surface, and the letters then cut upon that surface with a tool used so as to

leave a rough-textured face within their outlines; or the slab may be polished and the letters marked out while the surface outside the letter areas is dressed to a rough texture. In either case, no real depth of cutting is required, particularly in a dark-tone material, as the legibility depends upon the differing textures to bring out the outlines; although the light reflected from a highly polished surface of granite, for instance, is important in giving an effect of a different color to the portions left a rough or hammered texture. In either case, it is always the flat, raised surface that has to be the polished portion, as it is practically impossible to polish the sunk-cut surfaces. They are always left in the rough or hammered treatments for contrast.

In Figure 4, sections U-1 and U-2 show these treatments. The relief shown at Y-1 or the depth of cutting at X-1 would not be worth while, except in a light-colored stone where the supplementary aid of the caught shadow was also desired; or in a case where very deep cutting was made to allow for the wear and depreciation that would be occasioned by long exposure to severe weather conditions.

For a raised cut letter a section like Y-2 is actually even better than Y-1, as the slightly sloped sides catch some reflective light to help outline the letter form, and it is also more durable and more easily cut. But these two sections—as well as the Z-1 and Z-2 sections—are

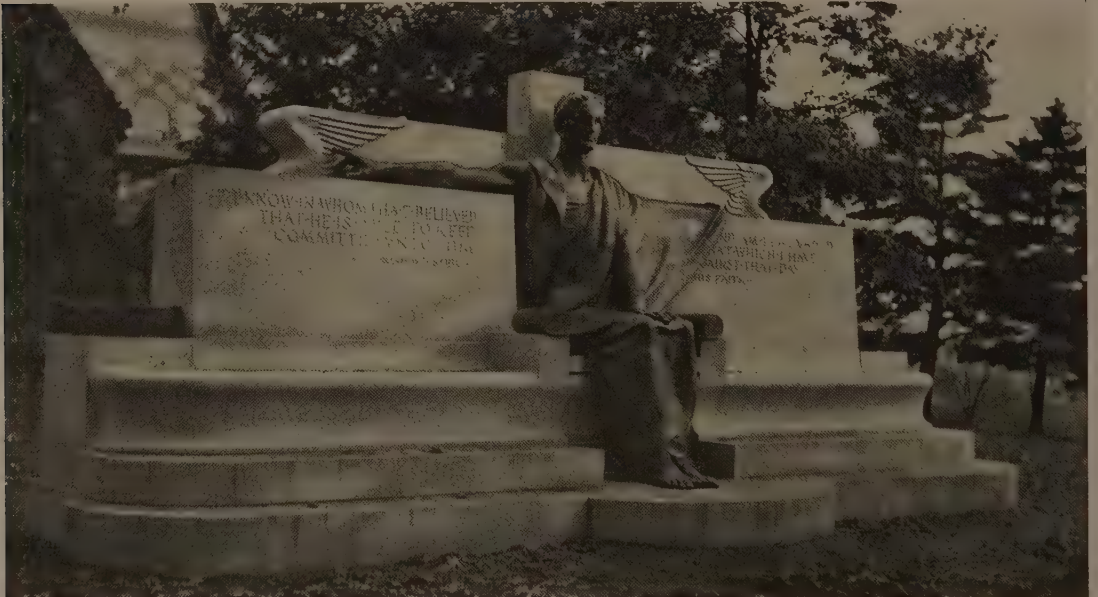


Fig. 7. Noah Webster Memorial, Amherst College; Willard Paddock, Sculptor

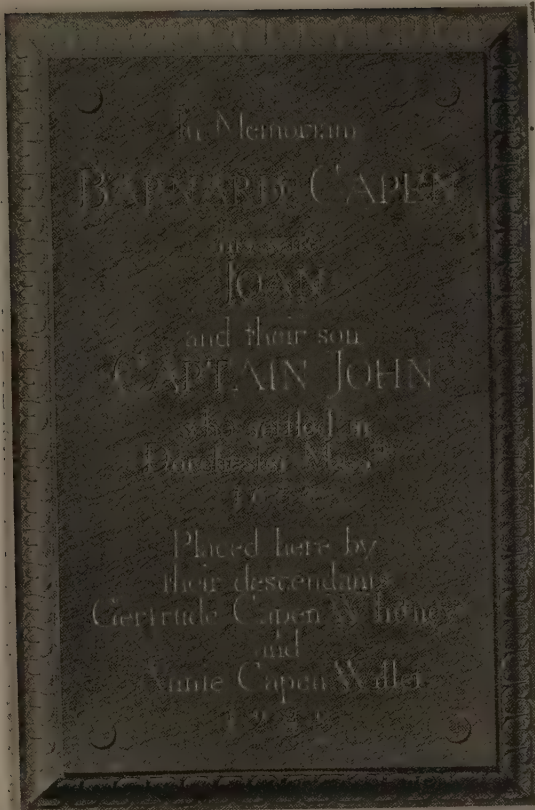


Fig. 8. Green slate tablet from New England Historic Genealogical Society Memorial Stairway. Designed by Gordon Allen

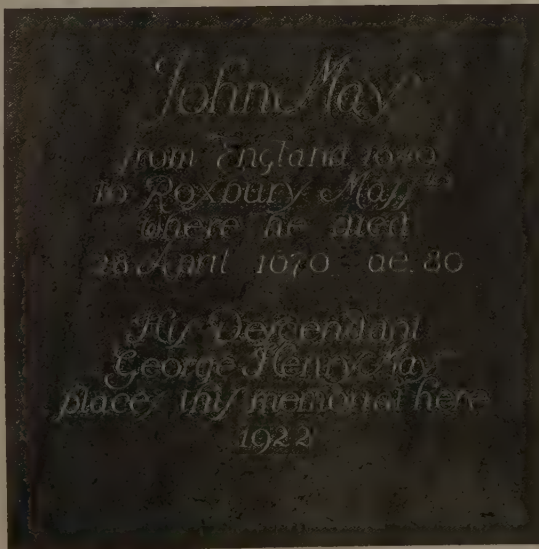


Fig. 9. Detail of green slate tablet from New England Historic Genealogical Society Memorial Stairway. Designed by Ralph W. Gray

the ones more usually found employed when a separately made letter of metal is applied to a light stone surface. The Z-2 is of course very ineffective in catching any shadows for outline definition of the letters. Section W-2 is far more effective. While not often used, it secures a very definite and precise letter outline, softened somewhat inside its shape, because of the gradual gradation of shadow to light contained within the letter section, instead of the sharp contrast obtained in the case of the V-sinkage.

But letters are not always to be regarded for their legibility alone. In Figure 7 we find an

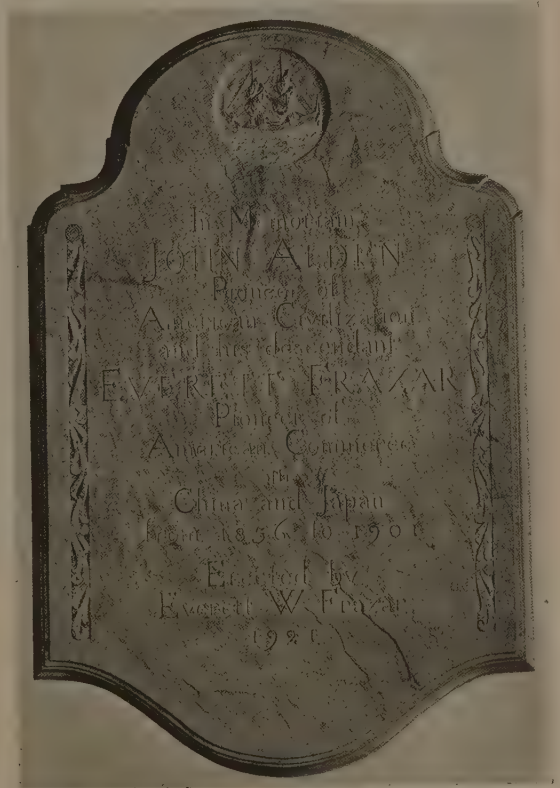


Fig. 10. Gray slate tablet from New England Historic Genealogical Society Memorial Stairway. Designed by Gordon Allen

instance where the section shown at Z-2 in Figure 4 is employed with exact feeling and discrimination. The designer was here planning to secure from the use of a lettered inscription a panel of tone or variation of texture that made an important element in his whole design. The inscription is here employed as decoration; and a far more dignified and reserved bit of decoration it is than any mere modelled ornament



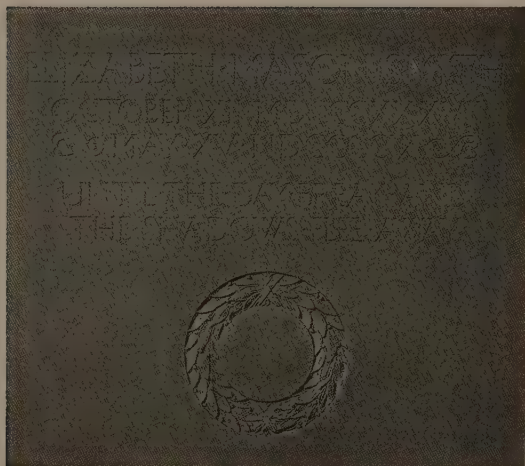


Fig. 11. Detail from  
black slate head-  
stone. Designed by  
T. B. Hapgood

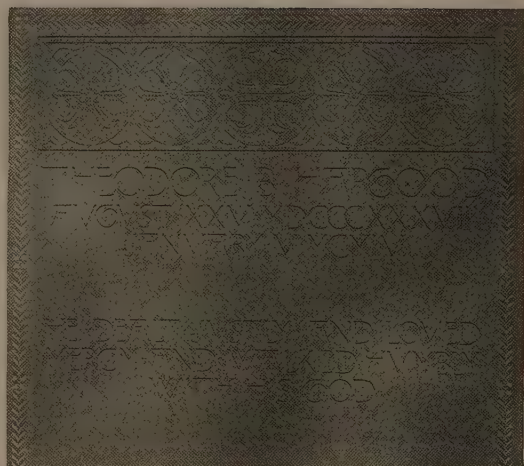


Fig. 12. Detail from  
black slate head-  
stone. Designed by  
T. B. Hapgood



Fig. 15. Old slate  
headstone in

cemetery at  
Plymouth, Mass.

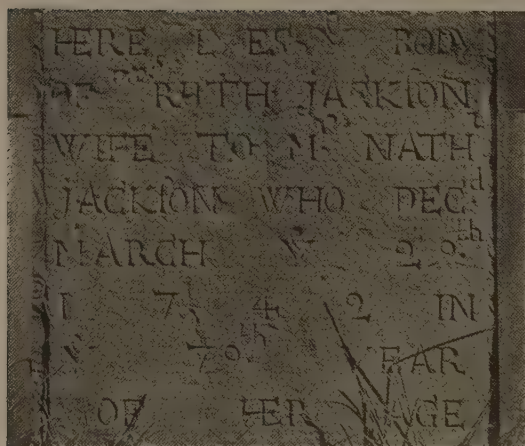


Fig. 13. Detail of lettering from old slate headstone at  
Plymouth, Mass.

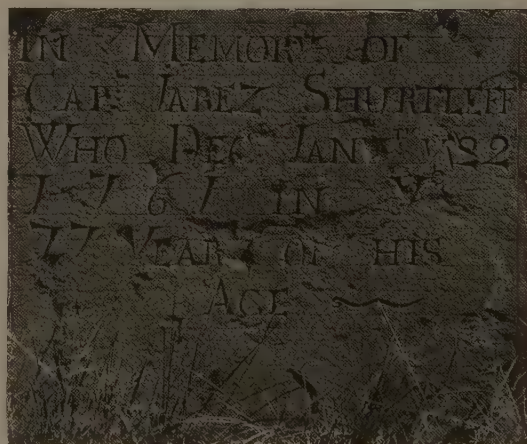


Fig. 14. Detail of lettering from old slate headstone at  
Plymouth, Mass.

could provide, besides its value as record and the meaning it conveys.

Letters may also even be so cut upon dark material as to appear light by contrast. Usually this effect may be obtained where the surface is granite polished, or a dark natural-faced stone like slate, for instance, when by cutting the letters with a sharply edged tool the material is so pounded, or "stunned," that it catches and reflects more light than the surface of the slab;

the slate color and the tooling, however, the inscription does not appear as clearly in the photograph as in the two previous examples. These three tablets were all designed for interior locations, and were quite new at the time these photographs were taken; therefore appearing quite different from the photographs of older slate headstones, taken after many years of exposure and weathering.

After long exposure, the rougher surface of

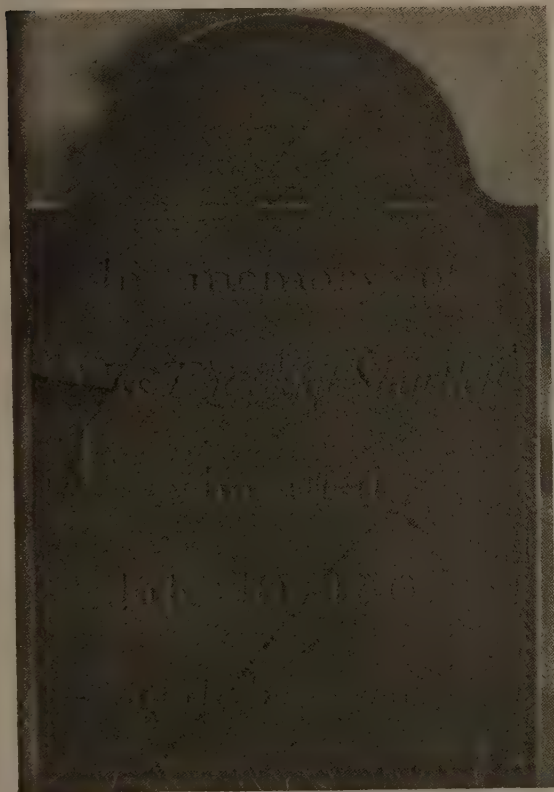


Fig. 16. Old slate headstone at Plymouth, Mass.

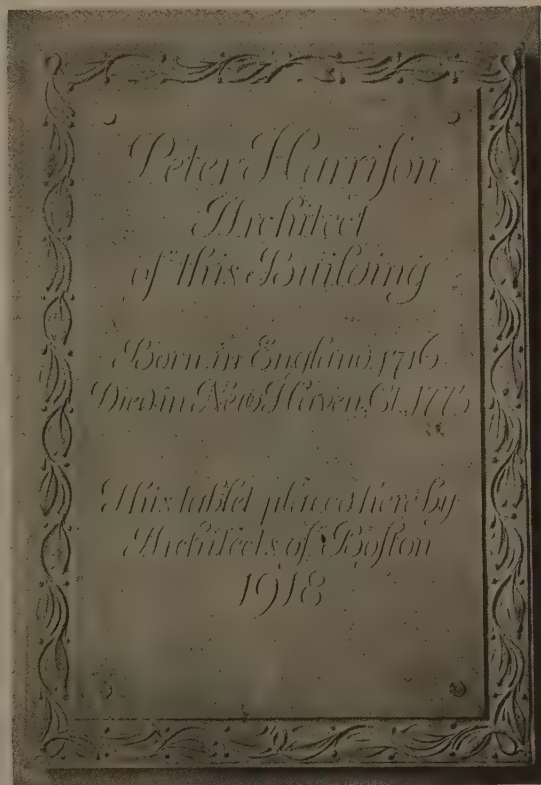


Fig. 17. Wall tablet, King's Chapel, Boston. Designed by T. B. Hapgood

thus appearing light by contrast. Figure 8, with a surface of natural split green slate, seems to carry much lighter lettering because of the cutting chisels affecting the material in this manner. The effect is even more noticeable in Figure 9, also of green slate, here smoothed to appear even darker in color, with the lettering appearing correspondingly lighter by contrast. Another slate slab with split natural face is shown in Figure 10. This slate was a gray color, and the capital letters, the background of the side ornaments, and the circular top decoration were gilded. With less contrast between

the cut letters often takes up more dirt, while the smooth face of the stone keeps clean, so that the contrast is reversed. In Figure 11 is shown a newly cut stone of black slate; in Figure 12 another black slate stone, exposed only a few years, but already the letters have darkened. These latter letter forms are susceptible of being given either a V-sunk, square-sunk, or slightly rounded-sunk section.

In the group of old weather-worn slate headstones from Cape Cod, the scratching of a guiding-line for the lettering has remained through all the intervening years, and still adds a cer-



tain naïveté to the inscriptions; while in those in which it is most marked it can even be accepted as giving a definite effect of character and precision to the whole design. Figures 13 and 14 date back to a period when the capital letter was most frequently employed for the entire inscription. Both these stones have had their edges renewed to aid in their preservation. The other two use the lower-case letter; Figure 15 in the more ancient; Figure 16 in the much later Colonial manner. These faces were all split, but the older ones have so worn that they now appear almost smooth.

The slate stone to Peter Harrison (Fig. 17),

in the old King's Chapel, uses the old script lettering, which was also at one period a favorite with Colonial sculptors. This, too, is a wall panel for inside location, and so neither its color nor its surface will be subjected to the wear and stress of the elements. On such locations the aids of color, gilding, and other assistants to strengthen the legibility of the inscriptions may be summoned; but these may not be utilized in more exposed situations. Also, the indoor tablet is usually not very far removed from the eye of the spectators, so that a more refined type of letter and a more delicate cutting may both be employed.



*Fig. 18. The cenotaph, War Memorial, Yale University, New Haven, Conn. Thomas Hastings, Architect*

*A supplementary article on this subject by Mr. Brown will follow in one of the autumn issues, dealing with certain problems in lettering upon marble, limestone, and granite surfaces.*



# ARCHITECTURE'S PORTFOLIO

OF

# A R C A D E S



## ❖ ❖ ❖ *Subjects of Previous Portfolios* ❖ ❖ ❖

PANELLING OF THE ENGLISH TYPES—Jan., 1927	COLONIAL TOP-RAILINGS OF WOOD—Nov., 1927
STAIRWAY DETAILS (GEORGIAN, EARLY	CIRCULAR AND OVAL WINDOWS (CLASSIC
AMERICAN, ETC.)—Feb., 1927	AND RENAISSANCE)—Dec., 1927
STONE MASONRY TEXTURES—Mar., 1927	BUILT-IN BOOKCASES—Jan., 1928
ENGLISH CHIMNEYS—Apr., 1927	CHIMNEY TOPS—Feb., 1928
FANLIGHTS AND OTHER OVERDOOR	DOOR HOODS—Mar., 1928
TREATMENTS—May, 1927	BAY WINDOWS—Apr., 1928
TEXTURES OF BRICKWORK—June, 1927	CUPOLAS—May, 1928
IRON RAILINGS—July, 1927	GARDEN GATES—June, 1928
DOOR HARDWARE—Aug., 1927	STAIR ENDS—July, 1928
PALLADIAN MOTIVES—Sept., 1927	BALCONIES—Aug., 1928
GABLE ENDS—Oct., 1927	GARDEN WALLS—Sept., 1928

## SUBJECTS IN PREPARATION FOR FUTURE ISSUES

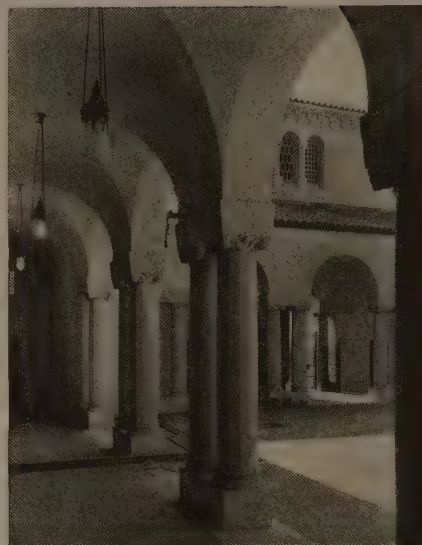
Circular Gothic	Corner Cupboards	Garden Pools	Quoins
Windows	Clock Towers	Garden Shelters	Iron Railings
Colonnades	Elevator Doors	Interior Paving	Rain-Conductor Heads
Cornices	Driveway Entrances	Organ Cases	Stucco Textures
Balustrades	Fences	Oriel Windows	Treillage
Belt Courses	Finial Urns	Overmantels	Verandas
Brick, Moulded	Spanish Fireplaces	Niches	Weather vanes
Corbels			

*Photographs showing interesting examples under any of  
these headings will be welcomed by the Editor*





ARTHUR LOOMIS HARMON



BAKEWELL &amp; BROWN

ALEXANDRIA,  
VIRGINIA

VENICE



ORLEANS



SAN DOMENICO  
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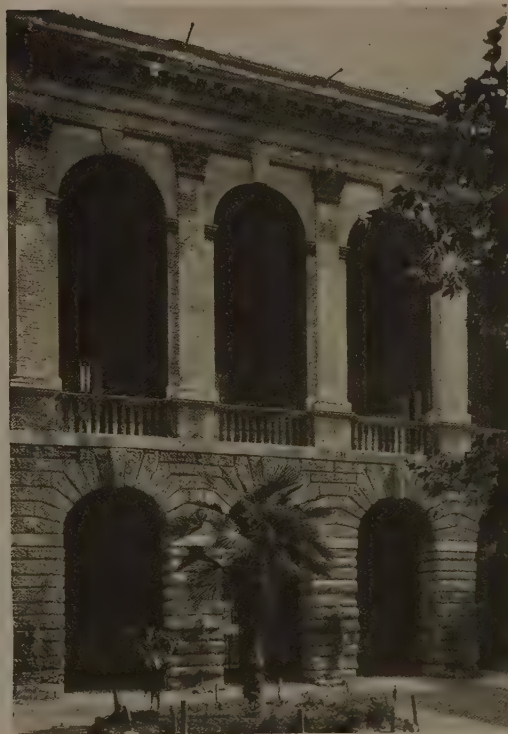
SAN CASCIANO, FLORENCE  
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BARNARD CLOISTERS,  
METROPOLITAN  
MUSEUM OF ART



VICENZA, ATTRIBUTED TO PALLADIO



BADOER, VENICE, ATTRIBUTED TO PALLADIO





ADDISON MIZNER



JAMES OSBORNE CRAIG

MARKET HALL,  
BUCKS

MEYER &amp; HOLLER



DELANO &amp; ALDRICH



ADDISON MIZNER



BEVERLY W. SPILLMAN



W. E. FISHER &  
A. A. FISHER

MORETON-HAMPSTEAD, DEVONSHIRE



DURSLEY, GLOUCESTERSHIRE



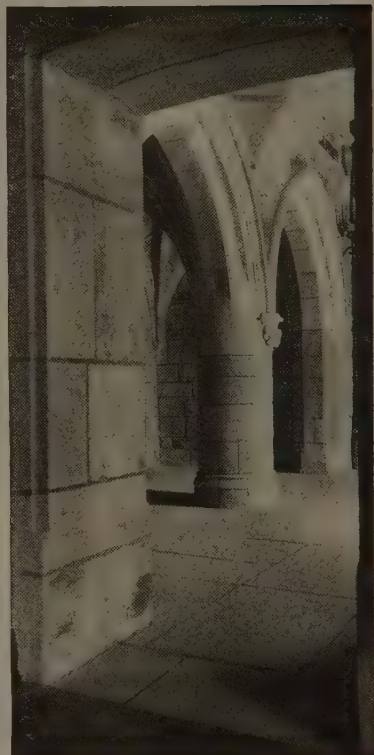




YORK &amp; SAWYER



HOBART B. UPJOHN

WALTER T. KARCHER &  
LIVINGSTON SMITH

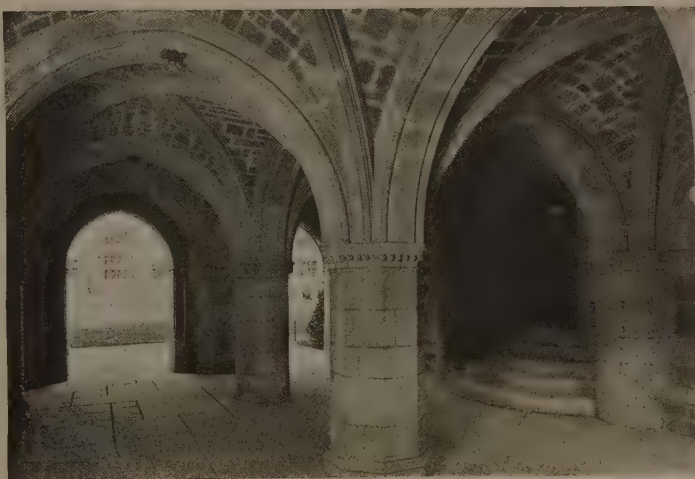
JAMES GAMBLE ROGERS



CRAM, GOODHUE & FERGUSON



McKIM, MEAD & WHITE



JAMES GAMBLE ROGERS



WALKER & GILLETTE







LEIGH FRENCH, JR.



BRUTUS GUNDLACH



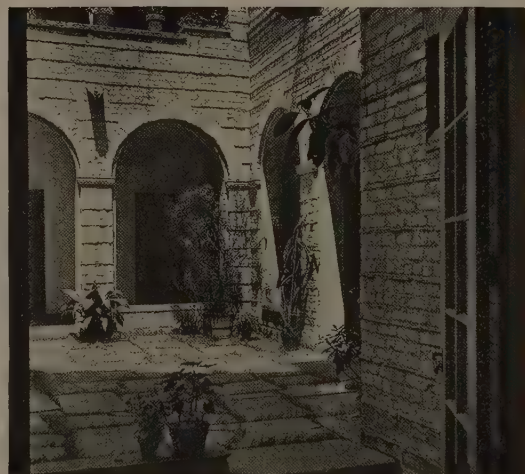
MOUNT VERNON,

VIRGINIA

R. BROGNARD OKIE



E. C. DEAN





# The Architectural Clinic

ON PAINTING ORNAMENTAL IRONWORK



THE painting of ornamental ironwork is the bane of sharp detail, and yet it seems to be one of those necessary evils from which in many cases there is no escape. New developments in electroplating and chemical deposits on the surface of iron and steel may eventually serve to abolish the troublesome paint problem for new work, but existing iron, which demands protection from rust, had probably best always be painted. As a general rule the architect realizes that red lead and linseed oil are useful protectors, and as a matter of habit specifies that the ironwork be given a base coat of that combination. However, it is of interest to have a brief biography concerning other pigments besides red lead, and their positive or negative attributes. For this information we are indebted to Stephen R. Kiehel, a chemist who has specialized in paints.

Paints should be more than mere mixtures of liquids and pigments if they are to serve most adequately the purpose of preventing ornamental ironwork from rusting. Unless they consist of the proper constituents they not only may be but partially efficient, but may even *excite* rust instead of preventing it. In theory the liquid parts of a protective coat of paint must form an impervious film, and the pigments (which are held in suspension when applied) must encourage what is known as "passive action," *i. e.*, must tend to make the iron inactive toward oxidation. Also, when the liquid forming the film begins to disintegrate, the nature of the pigment should be such as to retard the formation of rust.

As every architect knows, any metallic surface which is to retain paint must be properly conditioned, *i. e.*, cleaned of all grease, dirt, and rust scale. This is usually accomplished by means of wire-brushing, sand-blasting, or the use of gasoline or benzine solvents. Unless this is thoroughly done, not only will the first coat of paint fail to adhere, but naturally the subsequent ones also.

The first coat of paint ranks paramount in importance, because its responsibility is to protect the metal from oxidation

—later ones serve principally to achieve a harmonious color effect. This initial coat should be of the same interest to the practical side of an architect, as the final one is of importance to his reputation as a colorist. The base coat should surround the particles of iron with a film which will combine long service with the prohibition of rust-formation through the properties of its two ingredients: toughness of the oil film and passive action of the pigment.

The problem thus resolves itself into a consideration of the liquid which forms the film, and the passive pigment mixed with it.

For the liquid portion of the base coat of paint, linseed oil has firmly established itself by dint of long usage and earned reputation. It forms an adequately tough, elastic film, and does its best to prolong the life of the coat. For a first-class job it is the recommended vehicle for the base coat. Other oils are sometimes employed, as chinawood, perrilla, soya bean, and fish, but since they are generally higher in price than linseed and possess no distinct advantage for metal work, there is no gain in using them.

Pigments may be divided into three classes: inhibitors of rust, neutrals, and excitors of rust. Naturally, the pigment of the first coat should be of the inhibitor category, which is chiefly represented by the following:

(a) Red lead ( $Pb_3O_4$ ) has long been popular because of its passive action and economy. Recent research shows that the litharge ( $PbO$ ) present is the active agent, and that if a pure litharge paint could be devised it would have decided advantages. Unfortunately, however, it tends to shorten the life of the paint, and therefore should be reduced to somewhere between 5 and 15 per cent of the total pigment content, the rest being true red lead. An objection to this type of paint is that it tends to harden after standing a few months in storage, and therefore should be freshly ground for each job. For this reason some of the foremost cast-iron foundries

employ other pigments. To overcome hardening, asbestine is sometimes ground up with red lead; while this decreases its strength it increases





its ability to withstand storage. It is commonly used by the navy for priming steel ships.

(b) American vermilion, or basic chromate of lead, has recently come to the fore because of its apparent superiority in various tests, where it surpassed the well-known red lead.<sup>1</sup> Its intense "hiding power,"<sup>2</sup> its excellent "brushing qualities,"<sup>3</sup> its adequacy in being applied as a thin film, and its having only a slight tendency to harden in storage, should make it a valuable architectural adjunct. The only hindrance has been the cost, which is about one and a half times that of red lead, but, considering the small amount used in decorative work and the gain because of better appearance of the ornament, this should be considered negligible.

(c) Zinc oxide has distinctly inhibitive tendencies; used alone it makes the film brittle, but good results may be obtained in combination with neutral iron oxide.

(d) Metal zinc dust has limitations as a priming-coat pigment because of poor suspension, but this may be partially overcome by grinding it with a suspending type of pigment, such as asbestine.

(e) Blue lead finds some favor as a first-coat ingredient, but opinion is divided as to its value in rust inhibition.

(f) Zinc chromate is used in combination with neutral pigments, but its slight solubility in water has precluded extensive employment.

(g) Iron oxides belong to the neutral classification of pigments. They possess good hiding power with good brushing qualities, and while

conducive to prolonging the life of the oil film, they are electrochemically neutral as regards rust, in neither retarding nor encouraging oxidation. They themselves are inexpensive, yet because they do not prevent rusting, any disintegration of the film will prove costly, and they therefore should be fortified with an inhibitor.

(h) Natural graphite is another neutral pigment which is commendable for long-wearing properties of the oil film. Because of resistance to heat it is popular for high-temperature work; it has poor brushing qualities, however.

An important fact for the architect to appreciate is that the base coat of paint for iron-work should never contain a large percentage of carbon or lamp-black. Both encourage rust, so that when the oil film begins to disintegrate, carbon comes in direct contact with the metal and rust spots quickly develop. As a second or covering coat these two pigments may be advantageously used (in producing blacks and grays) because of their intense hiding power and the long wear given the oil film.

The usual practice of shop-coating all metal work which is to be painted on the job is a commendable one. If after erection any spots have been scratched bare, these should be cleaned and retouched. As stated previously, the best paint would consist of linseed oil and American vermilion, or, instead of the latter pigment, red lead. The thinnest possible painting which will be efficient seems to consist of a first coat of American vermilion, followed by a thin covering coat of the desired color. The success of a coat of paint is dependent upon the life of the oil film, and while two coats of paint are better insurance than one, the less painting the surface receives the more nearly will it retain the modelling that was originally intended. Before repainting ironwork the old coats should be burned off, because not only will additional paint obscure ornament the more, but the surface will probably be uneven. Naturally, with all of the paint removed it will be necessary to start with a new rust-inhibitive pigment and linseed oil.

<sup>1</sup> Conducted by the research bureau of the Paint and Varnish Manufacturers' Association, under the auspices of Doctor H. A. Gardner, together with the American Society for Testing Materials, on Young's Million Dollar Pier, Atlantic City, 1910-14, and again in the Washington panels, 1914-17.

<sup>2</sup> The expression "hiding power" denotes the capacity of the paint film totally to obscure a background with the minimum thickness of film. A paint excellent in this respect, and used thin, can attain equal efficiency to one of relatively poor "hiding power" applied thick, other factors being equal.

<sup>3</sup> The expression "brushing qualities" denotes the capacity of the paint to be applied without a "pull" on the brush and without a tendency to become uneven. Although the liquid ingredient of the paint is a factor, it sometimes happens that, with the same oil, a change of pigment will diminish the brushing qualities.

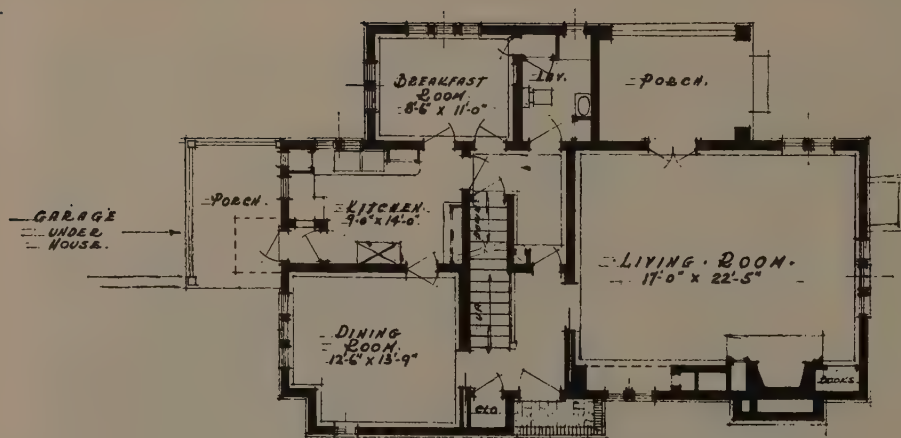
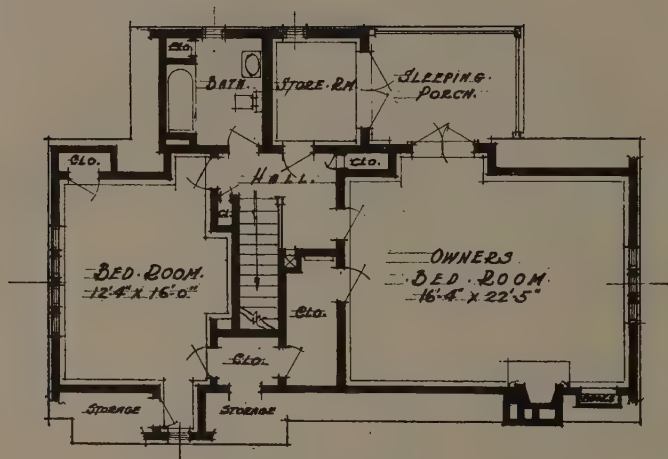




HOUSE OF MALCOLM L. GILBERT, PORTLAND, ORE.

WALTER E. CHURCH, ARCHITECT





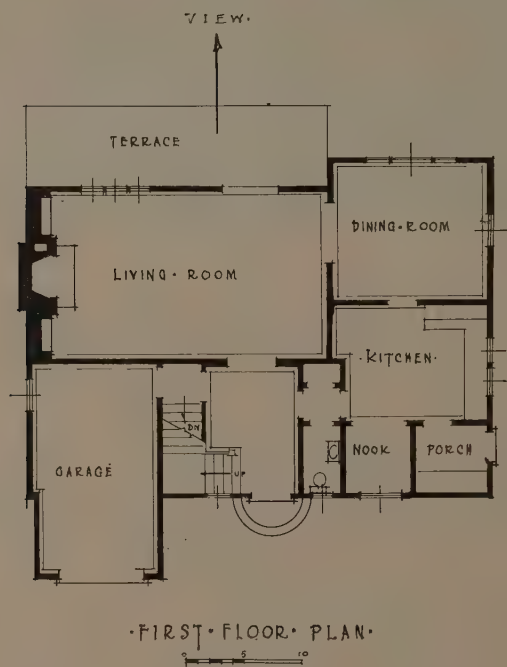
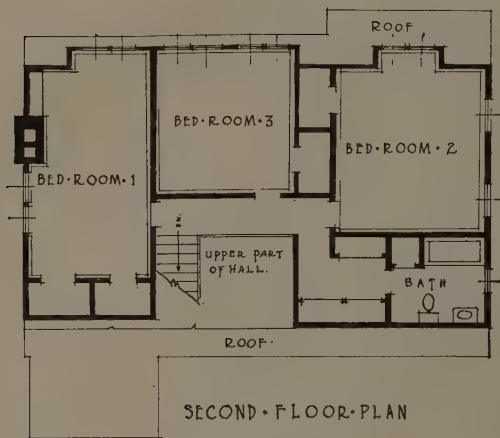
HOUSE OF MALCOLM L. GILBERT  
 PORTLAND, ORE.  
 WALTER E. CHURCH, ARCHITECT



HOUSE OF HARRY JAMIESON  
PORTLAND, ORE.

A. GLENN STANTON & IRVING G. SMITH, ARCHITECTS





HOUSE OF HARRY JAMIESON,  
PORTLAND, ORE.

A. GLENN STANTON & IRVING G. SMITH, ARCHITECTS

# Some New York City Shop Fronts



35 EAST 57TH STREET

GEORGE HILL, ARCHITECT

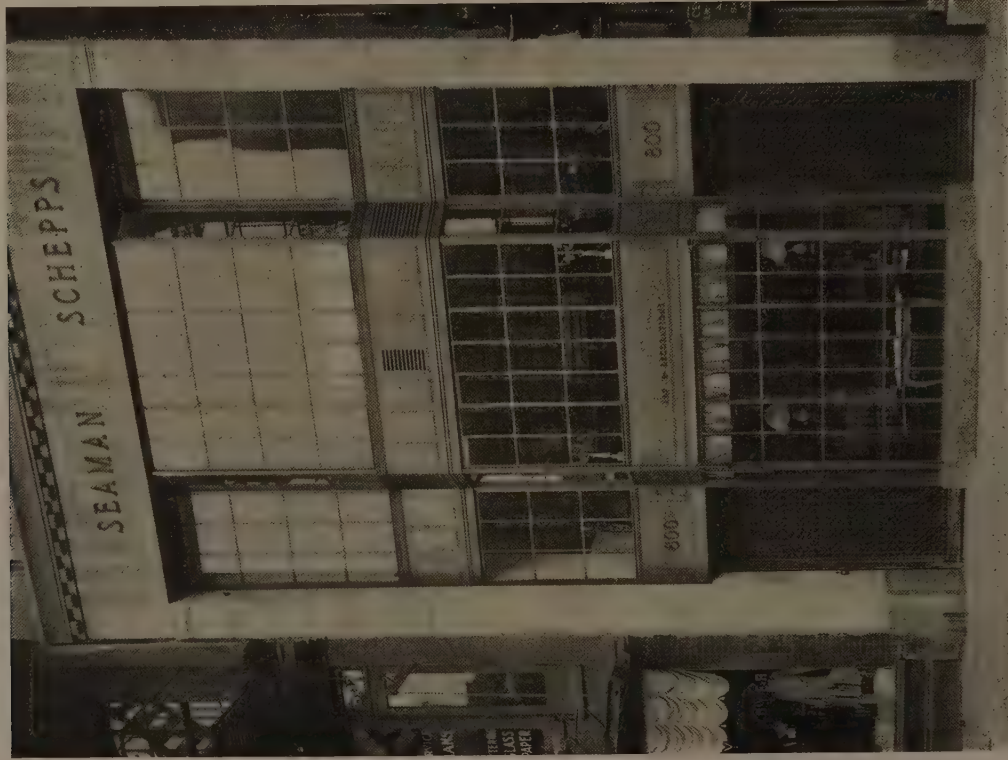


26 EAST 57TH ST. ADOLPH WOHLPART, ARCHITECT



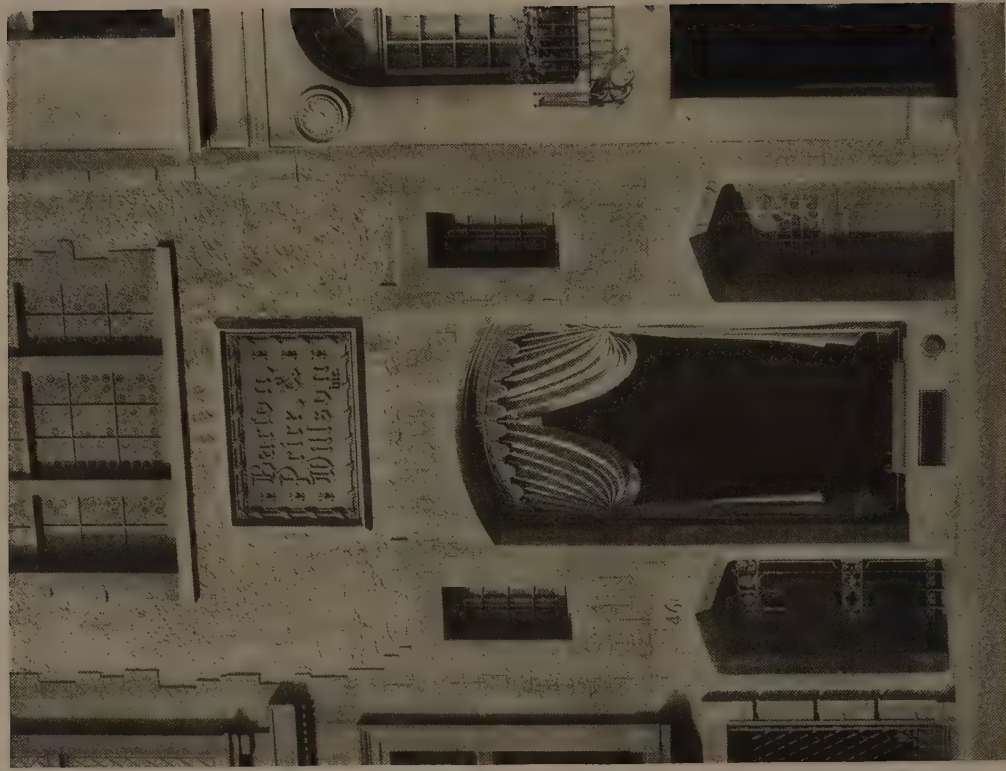
135 EAST 56TH ST. GEORGE H. LEVY, ARCHITECT





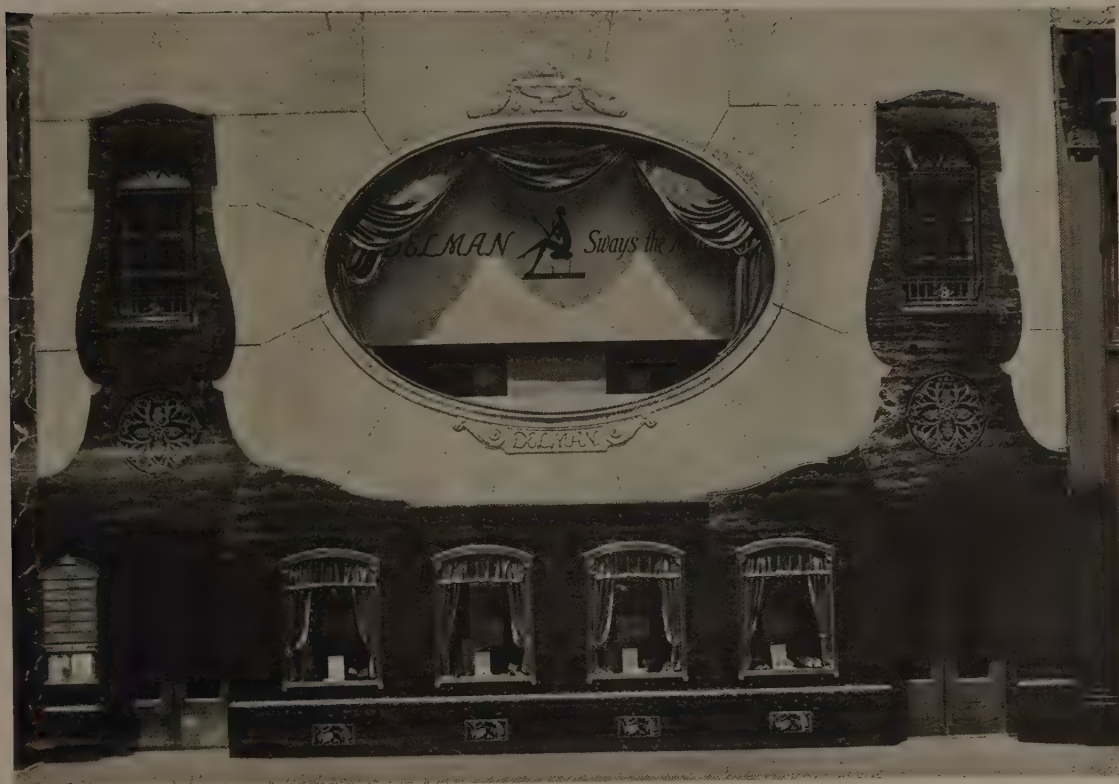
800 SIXTH AVENUE

BUCHMAN & KAHN, ARCHITECTS  
SOME NEW YORK CITY SHOP FRONTS



46 EAST 57TH STREET  
SOME NEW YORK CITY SHOP FRONTS

FRANK A. ROOKE, ARCHITECT



558 MADISON AVENUE

WILLIAM VAN ALLEN, ARCHITECT

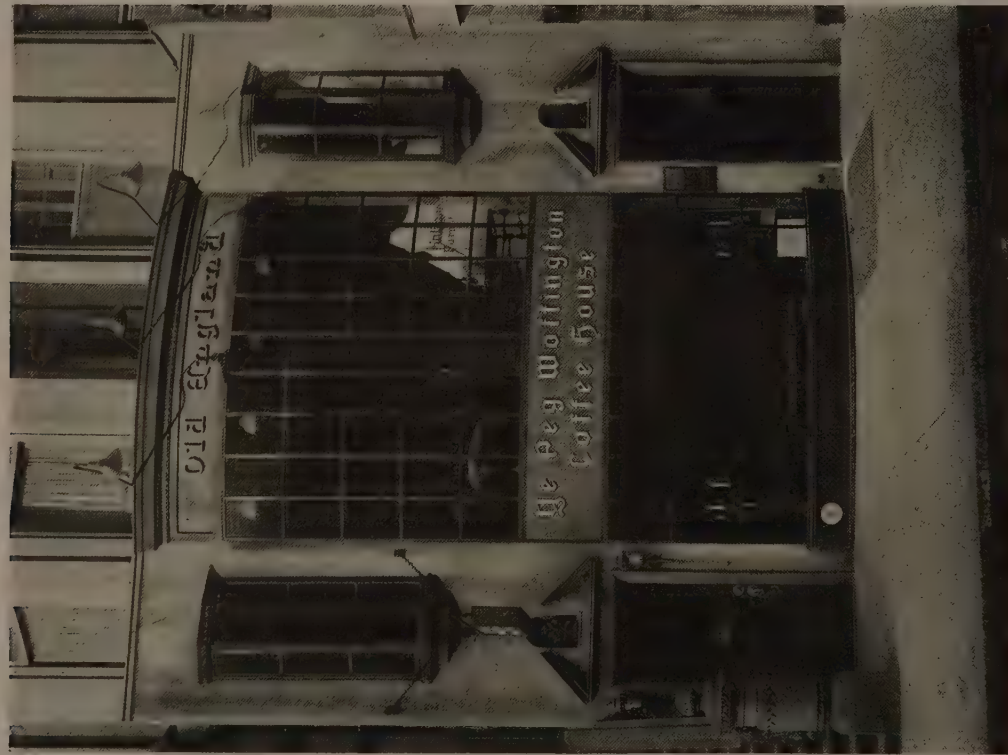


15 EAST 49TH STREET

CROSS & CROSS, ARCHITECTS

SOME NEW YORK CITY SHOP FRONTS

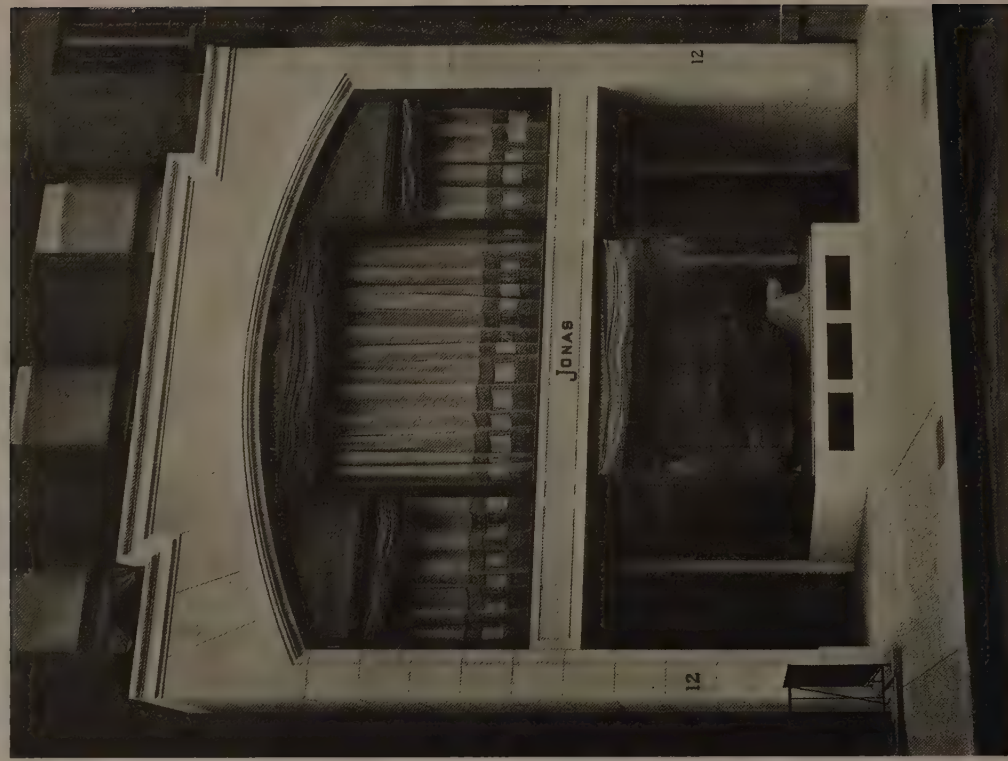




14 EAST 50TH STREET

RICHARD H. SMYTHE, ARCHITECT

SOME NEW YORK CITY SHOP FRONTS

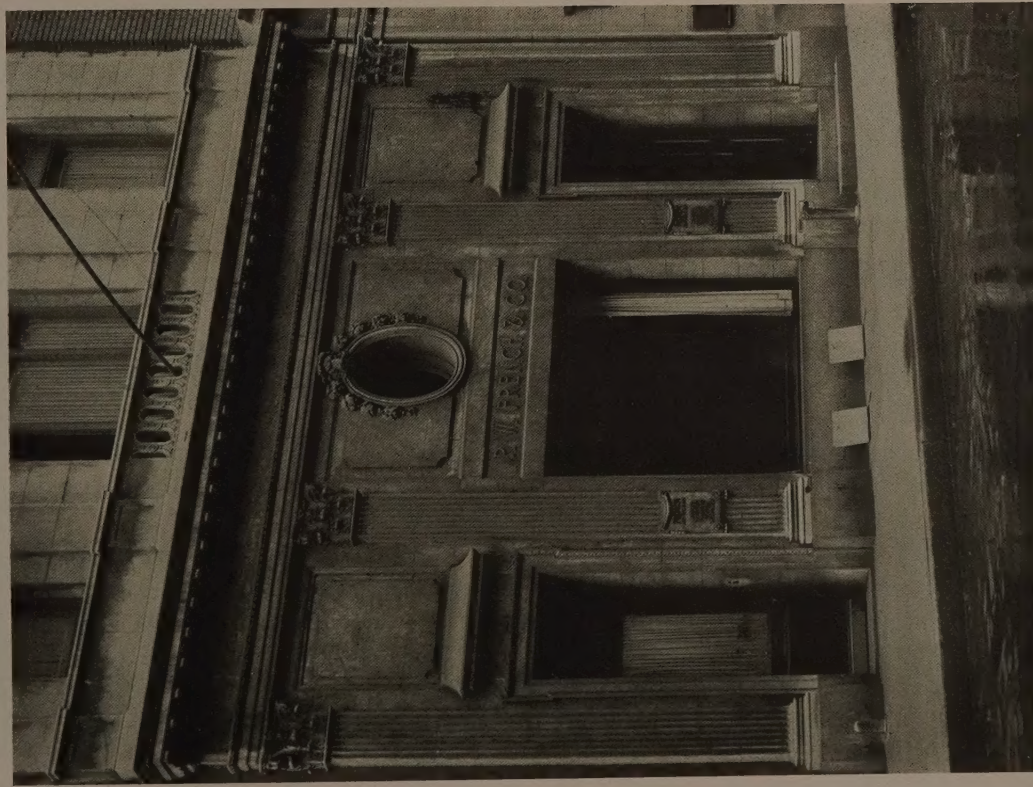


12 EAST 56TH STREET

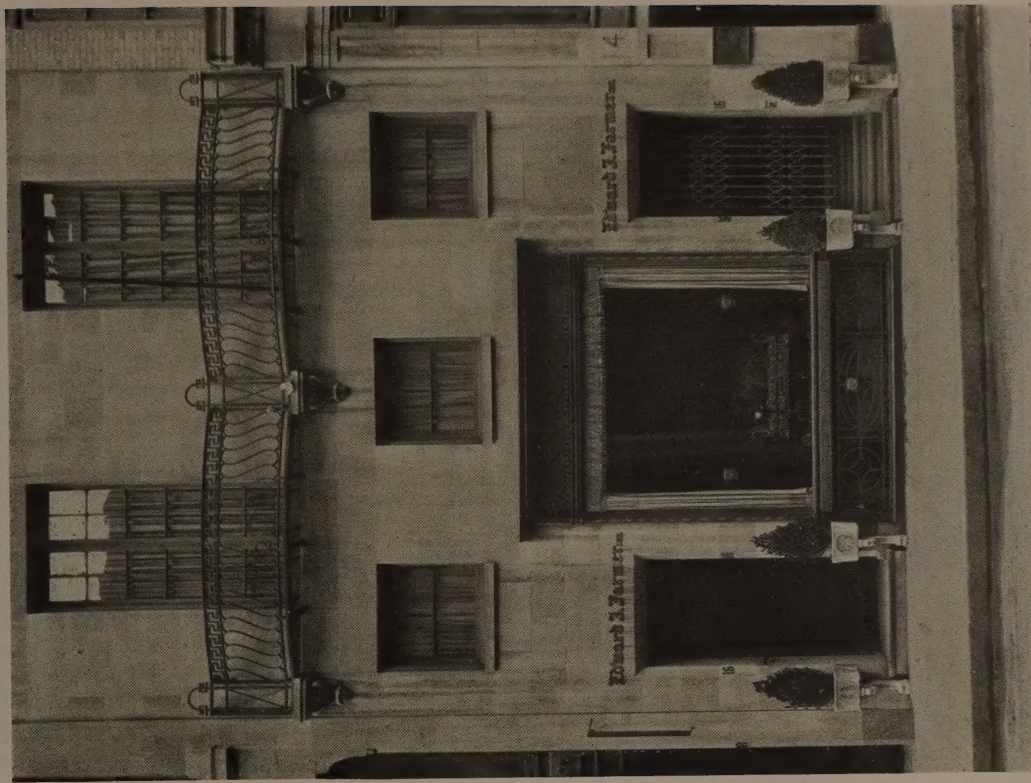
JOS. C. SCHAEFFLER, ARCHITECT



OCTOBER, 1928



6 EAST 56TH STREET



16 EAST 56TH STREET

SOME NEW YORK CITY SHOP FRONTS





9 EAST 56TH STREET

GREVILLE RICKARD, ARCHITECT



26 EAST 56TH STREET

SOME NEW YORK CITY SHOP FRONTS

JULIUS GREGORY, ARCHITECT





"PERUGIA—32D St.  
NEW YORK CITY"

*From the  
lithograph by  
Gerald K. Geerlings*

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